FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

JANUARY, 1949

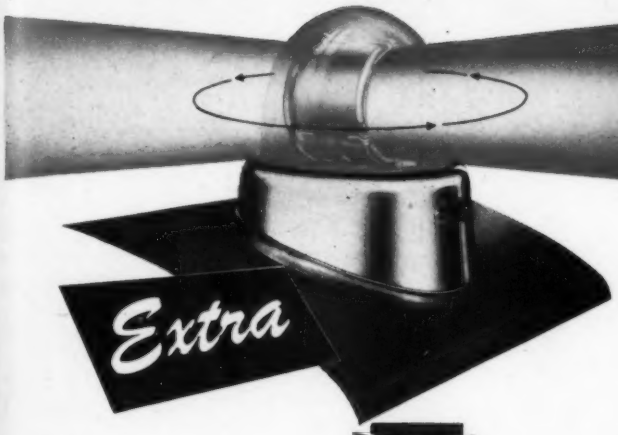
OHIO STATE UNIVERSITY
JAN 25 1949
LIBRARY

Boston Firemen Wage Three-Hour Fight to Subdue Water Tank Fire (See Article in This Issue)

TRUSTED IN EMERGENCIES

EMERSON RESUSCITATORS

J. H. EMERSON CO. 22 COTTAGE PARK AVENUE, CAMBRIDGE 40, MASS.



Extra

THE

New Beacon Ray Light

Extra

VISIBILITY... from Every Angle

Beacon Ray beams rotate through full 360°

Extra

STRENGTH...

Beacon Ray emits two powerful signal beams (180° apart)

Extra

360° PROTECTION... running or parking

Full rotation provides "area warning" regardless of vehicle position

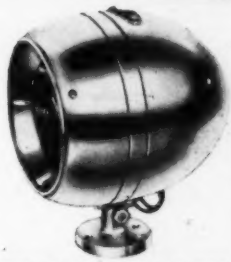
For full information on these advanced design signal lights, write today for Bulletin 87.

Bulletin 86 covering the full Federal Enterprise Siren line is also now available.

Your vehicles will be safer with Federal warning lights.

*Patent Pending.

ADDITIONAL FEDERAL WARNING LIGHTS

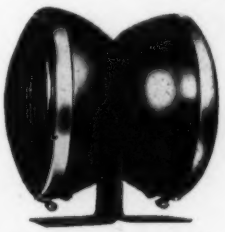


"PROPELLO-RAY"

The "Propello-Ray" with its roving rotating blade of light, is a stellar performer with extreme dependability. Standard color is red, but blue, green, or amber are also available. Bracket is suitable for fender or roof mounting.

"RITE-O-WAY"

Chrome plated supplementary warning units for all emergency units. For fender, bumper or roof mounting.



"DOUBLE-RAY"

Front and rear protection for emergency and service vehicles. Two 7-inch diameter lights each with its own reflector, mounted back to back on a sturdy bracket.

FEDERAL ENTERPRISES, INC.

Formerly: FEDERAL ELECTRIC COMPANY, INC.

8702 S. STATE STREET • CHICAGO 19, ILLINOIS

FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

CONTENTS

Vol. 102 January, 1949 No. 1

	Page
With the Editor By Fred Shepperd	19
Chicago Candy Plant Explosion Blamed on Dust	20
U. L. Tests of Extinguishers Show Fire Fighting Qualities	24
Three Automotive Plant Fires Keep Detroit Department Busy By Joseph A. Kleefuss	26
Richmond Furniture Store Blaze Moves All City's Fire Apparatus	27
The Watch Desk By Roi B. Woolley	37
Short Cuts and Gadgets	38
News of the Manufacturers	39
False Alarms	40
The Round Table All Year 'Round Firemen's Training	42
Persons in the News	51
What's Burning	53
World-Wide Fire News By Roi B. Woolley	57
Questions and Answers	61

FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

"Necessary" for the New Year

ONE of the big problems in the life of a fireman is the fact that no one can foretell just what's going to happen either in the number or extent or kind of fire emergencies he will be called on to face.

● One thing he does know, however: he must be prepared and equipped for any and every crisis.

● For over 67 years, FIRE ENGINEERING has been fortifying the fire service, to anticipate and meet these emergencies.

● Just how well it has done this is best told in the following message, written on a recent single renewal for 46 subscriptions to FIRE ENGINEERING, from one of the outstanding fire departments of the nation:

Reason (for renewal): This publication contains the latest methods and practices for the prevention and suppression of fires. Inasmuch as we endeavor at all times to keep our personnel appraised as to the best methods of performing their duties, it is necessary that publications of this type be procured for their study and edification.

● If we were to write our own testimonial, we couldn't have expressed it any better than this!

The Publishers

—Who wish you a Happy Prosperous New Year

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage Works Engineering,* etc. ¶Subscription price: U. S., Latin America and Canada, $3.00 a year; Foreign, $4.00; Single copies, 35c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879. ¶Contents of this issue copyrighted, 1949, by Case-Shepperd-Mann Publishing Corp. President and Advertising Director, KARL M. MANN; Vice-President and General Manager, I. HERBERT CASE; Secretary and Editorial Director, FRED SHEPPERD; Assistant Advertising Director, WALTER H. FREDRICKS; Eastern Representative, ALFRED J. HOUGHTON; Advertising Manager, WILLIAM J. GIBSON; Circulation Manager, W. H. TOPHAM. CHICAGO OFFICE: W. S. CLEVENGER and L. M. ROCHE, 8 So. Dearborn St., Chicago 3, Ill.; SAN FRANCISCO: CHARLES H. WOOLLEY, 605 Market Street, San Francisco 5, Calif.; LOS ANGELES: AUGUST HAURIN, 6000 Miramonte Blvd., Los Angeles 1, Calif. ¶Printed in U. S. A.

A CASE-SHEPPERD-MANN PUBLICATION
"Specialized Leadership"

WARD LA FRANCE...

ADVANCED ROAD TEST RATING

One of the new Ward LaFrance Pumpers delivered to the Boston Fire Department

Every purchaser of a Ward LaFrance can know in advance the exact road test rating. Why not be sure of the road performance for the new fire truck your community needs? Whether standing start, grade, continuous run, acceleration, or speed, Ward LaFrance will engineer the performance best suited for your local requirements.

Call on Ward LaFrance when you plan a replacement or expansion of your fire service; you will get the benefit of more than a quarter century of experienced fire engineering and manufacturing. Ward LaFrance Pumpers and Triple Combinations are the units that Fire Chiefs everywhere report as needed to build up department fire fighting strength.

Write today for illustrated bulletins on these essential units.

WARD LA FRANCE TRUCK CORPORATION

ELMIRA, N. Y.

It will help if you will mention FIRE ENGINEERING *when writing advertisers*

GUARDING THE LIVES OF MILLIONS FROM COAST TO COAST

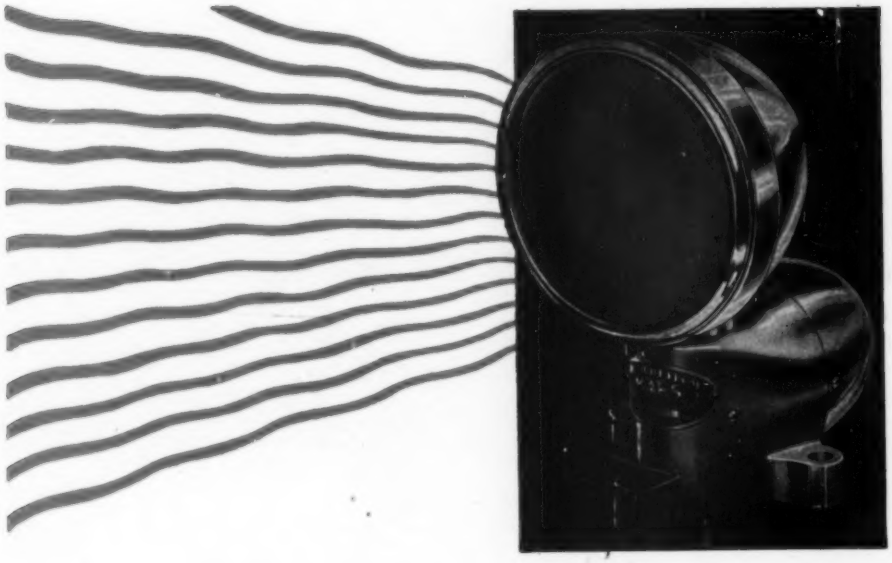
MORE THAN TWICE AS MANY
MARS SIGNAL LIGHTS

WERE BOUGHT BY FIRE DEPARTMENTS IN 1948 AS IN 1947

MARS SIGNAL LIGHTS HAVE BEEN USED BY FIRE DEPARTMENTS IN LARGE AND SMALL CITIES AND TOWNS FOR MORE THAN FIFTEEN YEARS. THEY ARE FULLY GUARANTEED FOR FIVE YEARS —MARS HAS NEVER FAILED TO BACK UP THIS GUARANTEE AND NEVER WILL.

WHY BUY ANYTHING BUT THE BEST?

Insist on MARS when you order New Equipment —Install it on Present Equipment



WHEREVER SAFETY OF FIREMEN, APPARATUS AND THE PUBLIC IS THE FOREMOST CONSIDERATION YOU'LL FIND FIRE DEPARTMENTS USING AMERICA'S FOREMOST WARNING SIGNAL LIGHT

START THE YEAR RIGHT— WITH A MARS SIGNAL LIGHT

THERE ISN'T ANOTHER LIGHT LIKE IT

IMMEDIATE DELIVERY

MORE THAN 11,000 IN USE FROM COAST TO COAST

For prices and complete information write to

MARS SIGNAL LIGHT CO. 5737 W. DIVISION ST. CHICAGO, ILL.

B. F. Goodrich "end-protected hose" helps fire departments make ends meet

End protection stops tube cracking, adds years to fire hose life

MOST fire hose failures due to tube cracks occur near the coupling. B. F. Goodrich patented and exclusive end protection strengthens hose ends with a network of hard cotton cords. These "rods" of fiber extending back 12", reinforce the tube in the critical coupling area, keep excessive strains from cracking or splitting it. Fire departments report that hose with end protection lasts years longer, cuts their hose bills.

Resists "bite" of expansion ring—When coupling is first applied the expansion ring will often cut or weaken an ordinary tube. BFG end protection provides an extra cushion of fabric to take the "bite" of the expansion ring, to keep the tube from being pinched or cut.

Takes hydrant coupling wear—Fire hose is often distorted and twisted while being coupled or uncoupled to a hydrant or fire engine discharge gate. And after it is coupled, it is still subject to flexing and stress from the pulsation of the water. End-protected hose stands this extra strain better.

Protects from coiling damage—After a fire, when the hose is rolled up around the coupling as a center, it tends to kink near the coupling. The metal coupling acts as a lever that presses against the hose. Ordinary hose tubes often crack under this strain. End-protected hose resists this kind of wear, protects against blowouts.

Other features—Life-lengthening compound ingredients keep the tube "live" longer. Prestretching of cord and jacket under tension insures uniform strength. Hydroseal treatment protects from freezing, mildew and rotting. All standard couplings available with BFG fire hose. See it at your local distributor. *The B. F. Goodrich Company, Industrial Products Division, Akron, Ohio.*

B.F.Goodrich
RUBBER FOR INDUSTRY

The Original MIDWESTERN Yellow Striped Safety Coat Is Again Available . . .

for Men of Action!

Here's Protection and Comfort in Your Hazardous Work of Safeguarding Life and Property Against FIRE!

Modern fire fighting calls for ***specialized*** protective clothing . . . clothing that safeguards the fireman's life on every run . . . clothing that enables him to use his equipment to the fullest advantage.

Every Midwestern product combines the thoughts and suggestions of practical Fire Chiefs and firemen from every section of the country . . . and every purchaser profits from years of Midwestern research and experience. That is why the famous Mackinaw Coat and other Midwestern clothing have embodied in their design every feature necessary for the protection and comfort of firemen.

In our vast selection of crude rubber materials you will find a type of fabric suitable for your climate and needs. The softness and flexibility in the high-grade materials used are your assurance of long time service and comfort. Many Fire Chiefs are now including Midwestern clothing in their regular yearly budget and, by placing your order early, you can be assured of this adequate protection when needed.

For complete information, have your Midwestern dealer show you our new garments now manufactured from crude rubber compounds. A letter to the factory will also bring you material samples for your inspection.

We now have available: White, Ivory and Brown crude rubber coats for Chiefs, Assistants and other officers; also all sizes short and ¾ length felt lined Firemen's boots for immediate shipment.

MIDWESTERN MFG. CO., Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Coats**

TRIPLE PROTECTION against FIRE

1. *Straight stream* can be discharged from the SG-48 Nozzle from small opening by a movement of the control handle, or

2. *High Velocity* WaterFOG with considerable forward projection from high velocity Fog tip, or

3. *Low Velocity* WaterFOG from LIGHTweight Extension Applicator. Fog tip is removed and Applicator inserted.

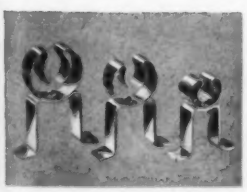
ROCKWOOD *LIGHTweight*

TRIPLE-ACTION TYPE SG48 WaterFOG NOZZLE

Here is a fire fighting tool that gives *triple-protection* against fires in ordinary combustibles and flammable liquids — Rockwood LIGHTweight Triple-Action SG-48 WaterFOG Nozzle.

This improved Rockwood WaterFOG Nozzle will control or extinguish fires faster with less water and will provide firemen with greater protection from fire, smoke and fumes. It also permits firemen to reach the very root of the fire and to attack it with less physical punishment. Available in ¾", 1", 1½" and 2½" sizes for service on fire hose lines. Designed and constructed for use in municipal fire departments, industrial plants, chemical plants, mercantile and public buildings, oil refineries, etc. Rockwood WaterFOG is approved by Underwriters' Laboratories, and Factory Mutual Laboratories.

Write for bulletin C-501R.



ROCKWOOD (Heavy Duty) APPLICATOR CLIPS

For mounting Rockwood WaterFOG Applicators and other Rockwood equipment on fire trucks, walls, posts, etc. Clips are chromium plated and are highly resistant to corrosion. Write for prices and further information today.

ROCKWOOD SPRINKLER COMPANY

54 HARLOW STREET WORCESTER 5, MASSACHUSETTS

Specialists in Fire Protection Engineering, Equipment and Installation since 1907

it's here!

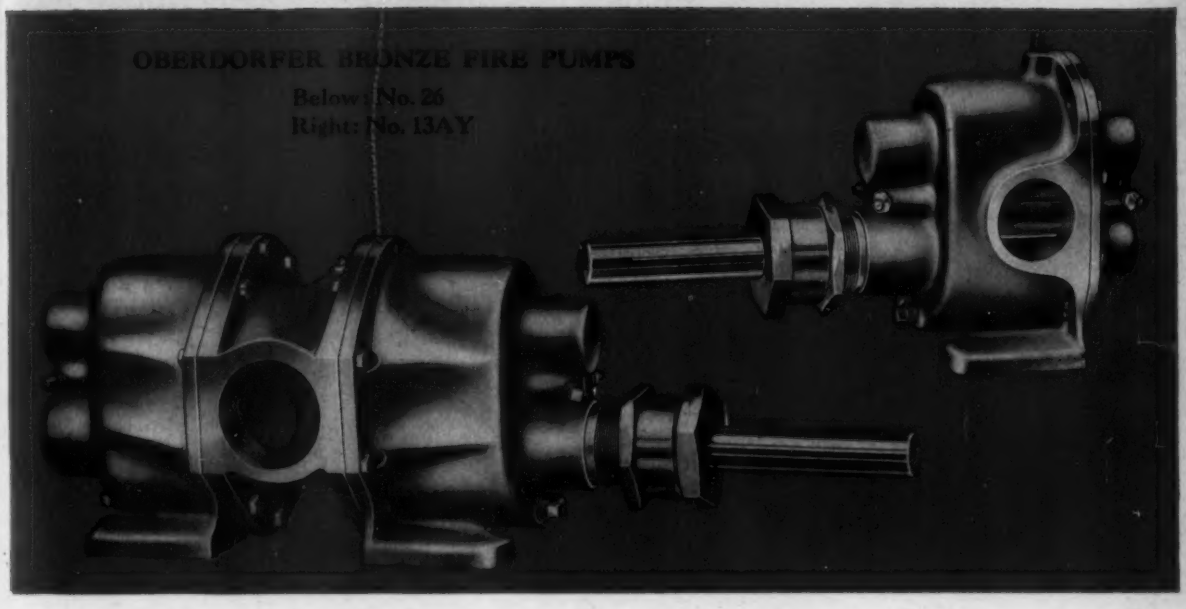
NEW ALFCO DRY CHEMICAL FIRE EXTINGUISHER

has these outstanding advantages . . . Longer range at all climatic temperatures! . . . Longer duration of discharge at all climatic temperatures! . . . More complete discharge of Dry Chemical contents! . . . May be operated in any carrying position! . . . Scientifically designed nozzle provides for wider coverage of fire area! . . . Gas-tight, all-internal expelling gas connections! . . . Built-in safety disc! . . . Hose couplings neatly swaged to hose for greater strength, smarter appearance! . . . High hose-mounting position avoids compacting of Dry Chemical—affords neater appearance! . . . Easy to recharge without special devices or replacement parts! . . . Occupies only 7" x 9" floor space! . . . Lighter weight—only 42 lbs. when ready for use! . . . Alfco Dry Chemical is nontoxic, noncorrosive, nonconductor of electricity and will not freeze! Underwriters' ratings: B-1, C-1. Recommended for flammable liquid and electrical fires.

Overall height 30"; Floor space occupied 7"x9"; Weight of Extinguisher, empty 17 lbs.; Weight of Dry Chemical Charge 25 lbs.; Weight of Gas Charge 8½ ozs.; Weight of Extinguisher charged for use 42½ lbs.; Total Weight packed for shipping 45 lbs.; Nozzle Polished Aluminum 6" long; Hose and Nozzle lengths approx. 26"; Shell Drawn Silicon Bronze; Finish Baked Red Enamel with Chrome, and Polished Aluminum trim.

Write us for literature and for demonstration.

AMERICAN-LAFRANCE-FOAMITE Corporation
ELMIRA · NEW YORK · U·S·A



An Oberdorfer Bronze Booster Pump + a wetting agent in your booster tank = modern fire fighting equipment at its best

Whether your community is under 100 population, or over 1,000,000, you cannot afford to be without this combination.

Pump No.	Pump Shaft RPM	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Volume in Gal. per Minute
13	1600	120	500′-1½″	15′	75
13	2000	100	500′-1½″	15′	100
26	1600	120	500′-1½″	15′	150

The #13 Oberdorfer Pump lists at $69.00; the #26 at $172.50. Both are corrosion-resistant all bronze construction with stainless steel shaft, assuring longer useful life than iron pumps costing far more.

These pumps are available to every reputable fire apparatus builder in the U. S. and Canada and through our agents everywhere.

OBERDORFER FOUNDRIES, INC., SYRACUSE, NEW YORK

EST. 1876

OBERDORFER

Booster Pumps

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

A New HOMELITE High Capacity SMOKEJECTOR

The First and Only *Carryable* Smokejector That Does the Work of Larger Truck-Mounted Units

Here, for the first time is a carryable smokejector that has the high capacity necessary to provide greater safety for your men and to help them extinguish fires faster . . . particularly those smoke-laden fires in cellars, basements, ships' holds and underground structures. Designed for handling extremely high volumes . . . *even through long suction ducts* . . . this new Homelite Carryable Smokejector is just what your department has always needed for removing dangerous smoke and toxic gasses. Light, compact, and simple to operate, this 130 pound unit . . . complete with built-in, dependable, Homelite gasoline engine . . . is quickly set up and put into operation *any place.* You can use it on commercial, industrial or residential fires. You can use it in narrow alleys, tight passages or confined quarters. And you can store it and carry it in a small pick-up truck. Comes with 16" diameter lightweight retractable duct that is covered with fire-resistant neoprene.

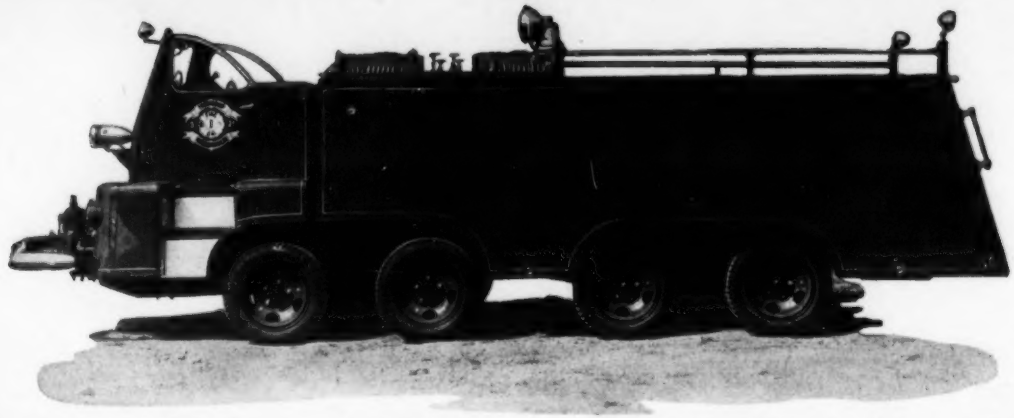
WRITE today and let us arrange to give you a free demonstration of the amazing performance of this new Homelite *Carryable* Smokejector any place you want.

Homelite Corporation

CARRYABLE PUMPS • GENERATORS • BLOWERS

301 Riverdale Avenue, Port Chester, New York

Kindly mention FIRE ENGINEERING *when writing advertisers*



All the "Extras" That a Fire Chief Needs! . . . are Yours in the SPANGLER DUAL!

Never before has there been packed so much fire-fighting punch into a single unit as is found in the SPANGLER DUAL. *Extra power* to get to the fire quickly over toughest terrain; *extra power* to get water and plenty of *extra water* available—enough for twenty minutes of effective fire-fighting! *Extra strength* and maneuverability that makes light of the weight of water, equipment and crew. And throughout—*extra quality* and *craftsmanship* in design and construction for added years of service.

The SPANGLER DUAL is an *extra*-ordinary fire-fighting unit—product of a company that has been making extra-ordinary fire apparatus and commercial vehicles for many years. You owe it to yourself and your department to get all the facts about SPANGLER DUAL *now*. Write without delay!

MANUFACTURED BY

HAHN MOTORS, INC.
HAMBURG, PA.

for

D. H. SPANGLER ENGINEERING & SALES CO.
HAMBURG PENNSYLVANIA

HEAD-ON VIEW, SHOWING EASY ACCESSIBILITY OF PUMPING UNITS.

REAR VIEW, NOTE UNUSUAL STORAGE FACILITIES FOR HOSE, LADDERS and MISCELLANEOUS EQUIPMENT.

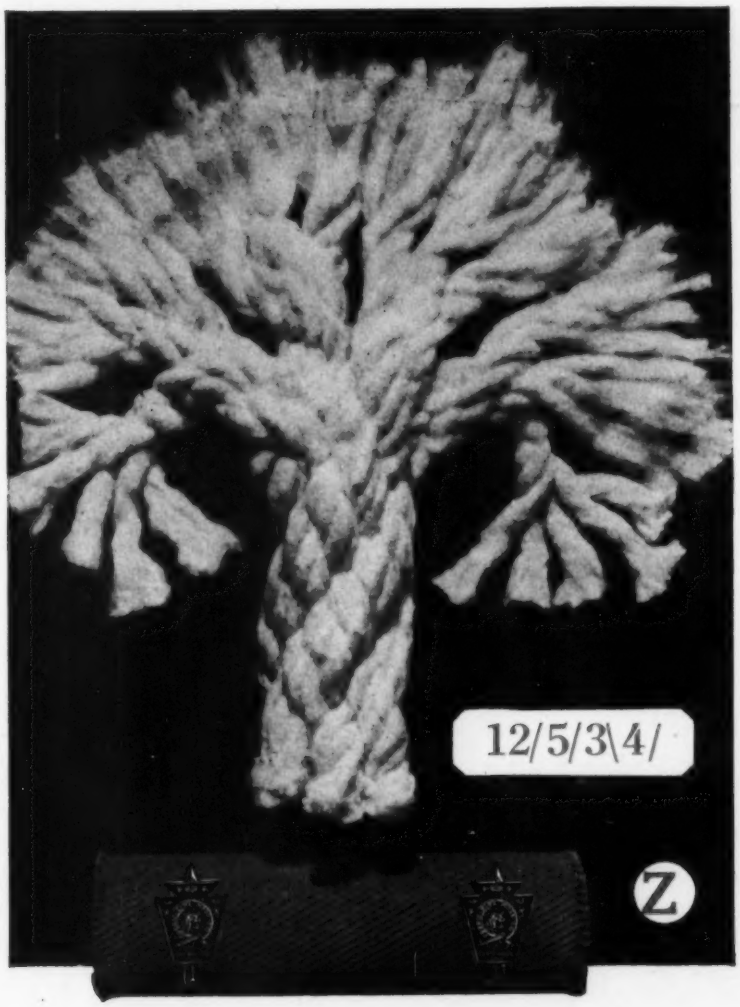
It will help if you will mention FIRE ENGINEERING *when writing advertisers*

YOUR BADGE CATALOG: Get your copy of the BLACKINTON fire department badge and insignia catalog. This publication, by the oldest firm in the insignia field, gives a complete and authentic picture of all fire department uniform accessories — with the complete story about the new Blackinton Super-Gloss finish. You should be sure to get the story of this new plating development. It is a cost-saving feature that should interest every chief or responsible official. Blackinton has been a leading manufacturer of badges for 96 years and Blackinton badges are available through dealers, uniform houses, and police and fire department distributors the country over. Ask for BLACKINTON, your guarantee of quality.

BLACKINTON

V. H. BLACKINTON & CO., INC., ATTLEBORO FALLS, MASS.

When a Fire Hose is "FULL CABLED," it means that every cord used in its construction is built up like the illustration below taken from a magnified yarn. Sixty cotton rovings are spun into yarn numbers. Five numbers twisted into strands. Three strands into a cord, and four cords into the final cable. Wherever great strength, flexibility, durability and reliance are needed, you will find cabled construction; such as in all rope and even steel cable. Each thread of cabled yarn takes proportional strain; impossible with plain yarn which twist up the sixty yarn numbers and let it go at that.



• KEYSTONE •

FULL CABLED FULL TWILL WOVEN GENUINE WAX AND PARA GUM TREATED HEAVY DUTY FIRE HOSE

FABRIC FIRE HOSE CO.

1869 SANDY HOOK, CONN. 1949

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

Dependable performance of protective signaling systems is founded on five basic requirements ...completely and effectively met by ADT Central Station Electric Protection Service...

Skilled installation

Continuous supervision

Regular inspections

Prompt action

Complete maintenance

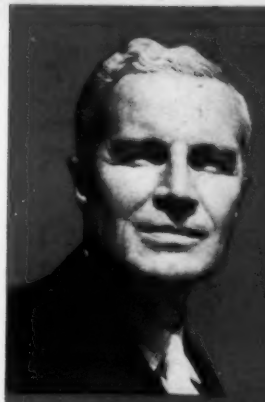
ADT provides these specialized functions through Central Stations located in all principal cities of the United States. These Central Stations are manned continuously by experienced personnel concerned only with the care and operation of protective signaling systems. Such *service* is your assurance of prompt and effective action when an emergency arises.

Write for complete information on these and other ADT Services: Automatic Fire Detection and Alarm Service; Manual Fire Alarm Service; Sprinkler Supervisory and Waterflow Alarm Service; Watchman's Reporting Service; Burglar Alarm and Holdup Alarm Services.

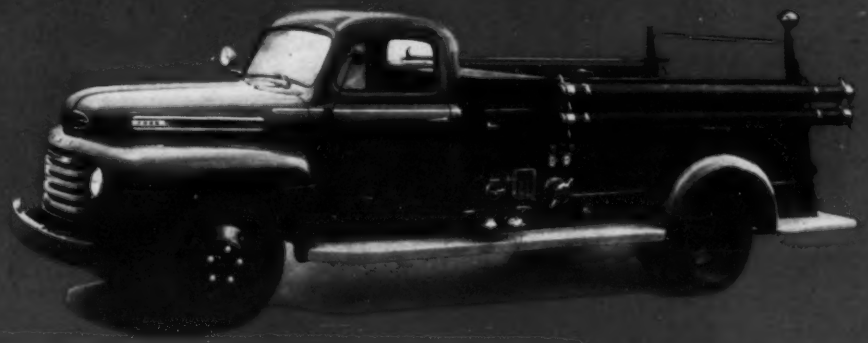
Controlled Companies of **AMERICAN DISTRICT TELEGRAPH CO.** *155 Sixth Ave., New York 13, N.Y.*
CENTRAL STATIONS IN ALL PRINCIPAL CITIES OF THE UNITED STATES

ADT

Electric Protection Services
AGAINST FIRE · BURGLARY · HOLDUP
A NATION-WIDE ORGANIZATION



WE NEEDED DEPENDABLE FIRE PROTECTION AT A PRICE WE COULD AFFORD TO PAY.....WE FOUND THAT THE SEAGRAVE COMMERCIAL PUMPER WAS THE BEST BUY FOR OUR MONEY.



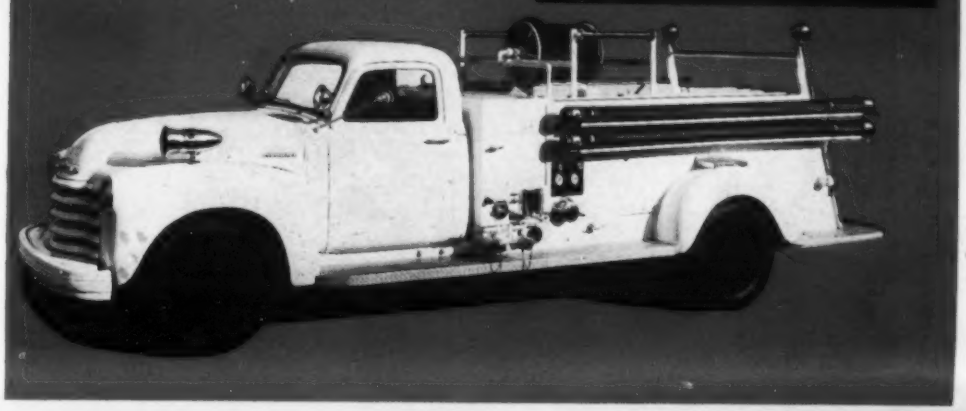
SEAGRAVE Commercial Pumpers

There are some communities who do not need and cannot afford heavy duty fire apparatus. It is for these small cities that Seagrave has designed the Seagrave-Commercial Pumpers which sell at a price that is within the possibility of the moderate budget. Seagrave uses the chassis of a Ford, Chevrolet, International and Dodge truck and equips it with a Seagrave body containing the famous Seagrave Centrifugal Pump and all standard Seagrave equipment including Automatic Pressure Regulator and Auxiliary Cooling System. The Seagrave-Commercial Pumper is constructed exactly the same as the large Seagrave Apparatus with the exception of engine, cab and chassis. This makes it possible for your community to have top quality Seagrave fire protection at an economical price.

THE SEAGRAVE CORPORATION
Columbus, Ohio
Bickle-Seagrave, Ltd., Woodstock, Ont.

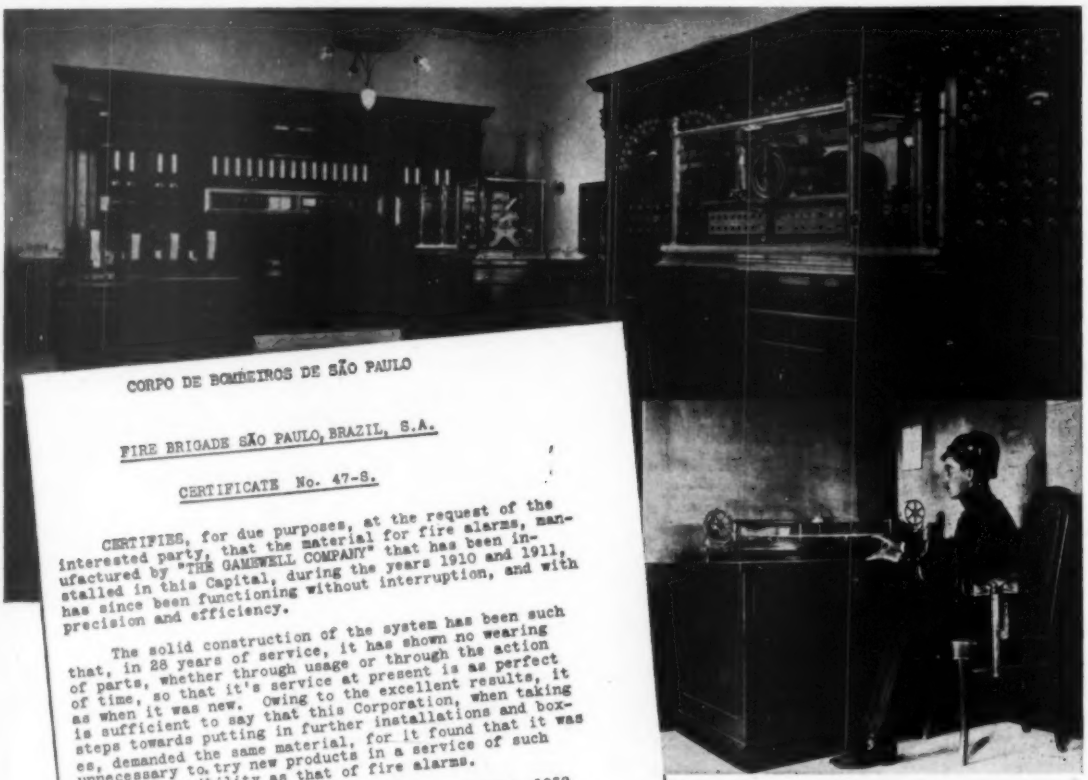
Seagrave

THE GREATEST NAME IN FIRE APPARATUS



It will help if you will mention FIRE ENGINEERING *when writing advertisers*

WHY CITIES PREFER GAMEWELL



CORPO DE BOMBEIROS DE SÃO PAULO

FIRE BRIGADE SÃO PAULO, BRAZIL, S.A.

CERTIFICATE No. 47-S.

CERTIFIES, for due purposes, at the request of the interested party, that the material for fire alarms, manufactured by "THE GAMEWELL COMPANY" that has been installed in this Capital, during the years 1910 and 1911, has since been functioning without interruption, and with precision and efficiency.

The solid construction of the system has been such that, in 28 years of service, it has shown no wearing of parts, whether through usage or through the action of time, so that it's service at present is as perfect as when it was new. Owing to the excellent results, it is sufficient to say that this Corporation, when taking steps towards putting in further installations and boxes, demanded the same material, for it found that it was unnecessary to try new products in a service of such great responsibility as that of fire alarms.

Barracks in São Paulo, February 10th., 1939

For greater clarity, I sign the present.

(Antonio Amaro Sobrinho)
Tenente Coronel Comandante

SÃO PAULO CORPO DE BOMBEIROS 10. FEV. 1939 GABINETE do COMMANDO

The São Paulo system has been largely extended with boxes of the Three-Fold Type.

Public fire alarm systems manufactured by Gamewell are skillfully adjusted to operate reliably under adverse climatic conditions. The São Paulo system, installed in 1910, is a typical instance of long and satisfactory operation in the hot and humid tropics—Gamewell Systems have developed similar records in the near Arctic regions of Canada and Alaska.

We invite your inquiry.

THE GAMEWELL COMPANY

NEWTON UPPER FALLS 64, MASSACHUSETTS

IN CANADA: NORTHERN ELECTRIC COMPANY, LTD., MONTREAL

FIRE ENGINEERING

JANUARY, 1949 VOL. 102, NO. 1

With the Editor

Prospect and Retrospect

At this time of the year those persons charged with the protection of their communities, plants and businesses against fire doubtless pause to take stock and to add up what's been accomplished. At this time also, they doubtless will, if they are forethoughtful, contemplate the future and perhaps plan to chart their fire protection and prevention course for the coming twelve months.

Viewed through wide-angle lenses, where do we stand, anyway? What has been accomplished? Where have we failed?

On the credit side we find that progress has been made by the fire service in 1948. True, not as great as might be wished, but nevertheless progress! There is wider fire consciousness on the part of the public. There is a realization in most municipal circles of the need for better fire control and all that it implies and entails. There is a growing disposition to recognize and treat fire protection as the big business that it is; to appreciate the fact that fire engineers cannot produce results without the necessary adequate means to do the job.

On the credit side, too, the fire forces are better organized; they present a more united front. In manpower, the entrance of thousands of young, fearless war veterans into the service has lifted personnel standards; these newcomers should provide excellent officership material.

Working conditions have been bettered. Training and education in firemanship continue to improve in quality and in scope. There exist more and better opportunities for a fireman to learn and know his business and profession.

There is improvement in deliveries of needed fire apparatus and equipment. Manufacturers have shortened delivery schedules, and are improving their products in every detail.

Some encouraging progress was made in the field of communications—not without FCC help in providing short-wave radio frequencies. Here, too, inventive genius is pacing the fire service. Radio, television, recording, amplifying oral and facsimile, as well as improved wire communications are the order of the day.

Progress has been made in fireproofing of materials, furnishings and fittings and, encouragingly enough, fire officials are showing more interest in and insistence upon the use of such safety products.

Lastly, there's encouragement in the number and severity of fire prevention laws and ordinances passed in contemplation for greater fire safety.

All this is to the good. But is it enough? Facing us in the challenge of many things lacking and undone.

Loss of life and property by fire remains high and will continue so, as industry and building expand. That growth is faster in many ways than the expansion of the fire service. Fire hazards are growing more complicated and are greater in number.

There is greater manpower in the fire service, but many fire departments are enrolling fewer men per company than in days of poorer working conditions. We can't overlook the fact that there are more fires, and more multiple alarms than ever and the outlook ahead is not too bright. Training in firemanship, although improved, is far behind the need. Only a few states have set up adequate training programs.

Living quarters for firemen, like much fire apparatus, are shamefully outmoded. Too many new fire stations have never even reached blueprint stage; and many that have done so are gathering dust in the files. Too many fire department rehabilitation programs likewise, are lost in pigeonholes. But, on the whole, the prospects for 1949 are good. They will be better as the fire service accelerates its fight for the recognition and advancement it so justly deserves.

Fred Shepperd

Chicago Candy Plant Explosion Blamed on Dust

Brach Candy Factory Ravaged With Heavy Loss in Pre-Dawn Holocaust. Seventeen Killed

Editor's Note: To the average fireman, whose familiarity with the manufacture of sweets is limited to the corner candy kitchen, or the like, it may come as a surprise to learn that there are fire and explosion hazards connected with modern large scale candy making.

This fact was dramatically illustrated in September in the blast and fire that devastated part of the huge Brach Candy plant in Chicago. The fairly modern, fire-resistive sprinkled factory is said to contain the latest type candy processing equipment and, although it had been charged with violations of fire department regulations some time before, the factory was said to be as near disaster-proof as modern science could make it at the time of the fire.

Notwithstanding this fact, an explosion occurred in the early hours of the morning, either as a result of a fire, or from some undetermined cause, which had all the effects of a super bomb of World War II. And before nearly a third of Chicago's fire fighters controlled the resulting fire and rescued all casualties, seventeen workers had died, several firemen were injured, a two-mile square area was thrown into near-panic and a new record for disasters of its kind had been established.

Dust explosions, in different industrial categories, have been responsible for a series of disasters involving large loss of life and property extending over a period of years. The National Fire Protection Association in its "National Fire Codes Vol. II, the Prevention of Dust Explosion, 1946" catalogs 888 total explosions, 322 of which resulted in 575 deaths and 1,364 injured. Of the total, 711 explosions caused property loss of over $79,000,000.

In this long record only six other explosions caused by dust equalled or exceeded the Brach catastrophe in number of fatalities, and none of these was in the same industrial classification. Actually, there were no fatal explosions of any kind listed as having occurred in candy plants. Therefore, the Brach tragedy may be said to have set a new record, and at the same time focussed the attention of the fire service on yet another hazard in the long list of post-war risks which the fire service must face.

The editors are grateful to the Chicago Fire Department and the Chicago Fire Insurance Patrol for most of the factual data and the photographs that make this one of the most interesting fire operations reports of 1948.

SEVENTEEN persons lost their lives and eleven others were injured in an explosion and fire which wrecked part of the vast E. J. Brach & Sons Candy factory, 4656 Kinzie Street, Chicago, Ill., shortly before dawn on September 7, 1948.

The shock of the blast shook a two-mile square area, showered bits of steel, concrete and debris over the adjacent Chicago & Northwestern main line railroad tracks, blocking these and nearby Belt Line tracks. Persons in the neighborhood were thrown from their beds by the concussion, which broke windows over a wide area and drove scores of near-hysterical residents into the streets.

A large section of the city's fire department, responding on a 5-11 alarm and special calls, fought strenuously to rescue victims and control the threatening blaze.

All of the victims were employees of the plant. Four, all men, died in the initial explosion and fire or shortly after. Six succumbed the next day, one the day following and the remaining five during the week following.

The E. J. Brach & Sons plant, frequently referred to as the largest maker of popular-priced candy in the world, covers an area of 529 feet by 616 feet. Located on the premises are nine buildings of reinforced steel rod and concrete fire-resistive construction, ranging from one story and basement to four stories and basement in height (see diagram).

The entire group of buildings are fully sprinklered, with 1½-inch standpipe fire hose connected to the sprinkler system. The water supply for the sprinkler system consists of two gravity tanks (40,000 and 50,000 gallons); one 1,000 gallon automatic fire pump and three siamese fire department pumping connections.

The first aid fire extinguishers consisted of 2½-gallon soda and acid, 2½-gallon foam and 1-quart carbon-tetrachloride.

In view of the fact that the greatest damage centered around Buildings A, B and C, the following description of occupancy of these respective buildings may be of interest:

Building A—Four-story re-inforced steel rod and concrete fire-resistive construction, 100′ x 100′ in area, erected in 1925 and 1926.

1ST FLOOR

Receiving room
Lunch room
Machine shop
Laboratory
Candy scrap room
Candy sealing machines

2ND FLOOR

East end—general candy making
West end—Cream department
Mogul machines 5 and 6
Drying rooms

3RD FLOOR

Gum, cream and marshmallow departments

North Side of Building "A" Looking South and West, Showing Damaged Portion of Third Floor Candy Drying Rooms. Blown Out Masonry Walls Were Eight-Inch Brick.

Mogul machines 1, 2, 3 and 4
Candy drying rooms
Candy mixing and cooking kettles

4TH FLOOR

Candy cooking kettles and cookers
Huhn starch dryers and starch cleaners
Starch dust-collecting cyclones

Building B—Three story reinforced steel rod and concrete, fire-resistive construction, 60' x 100' in area, erected in 1926.

1ST FLOOR

First-aid rooms, employees locker rooms
Various offices

2ND FLOOR

Personnel offices
General candy packing

3RD FLOOR

Executive offices
Purchasing department
Large dry room

Building C—Three-story reinforced steel rod and concrete fire-resistive construction, 100' x 128' in area, erected in 1926.

1ST FLOOR

Chocolate tank room
Cocoa butter line
Transformer vault
Ammonia compressors

2ND FLOOR

Chocolate processing and sugar grinding
Caramel department

The general type of construction is shown in the accompanying illustrations. Masonry walls were generally 8 in. thick; windows were metal-sash and roof and floor sections were of reinforced concrete.

Starch Used in Processes

The explosion, according to Factory Mutual Record, originated in a continuous candy-making process. In a machine known as a Mogul, cream filling is automatically fed into trays of molded powdered starch. The trays next go to a conditioning room for curing, and then back into the Mogul, where the trays are dumped. The starch is conveyed to a dryer to remove excess moisture, and then is returned to the Mogul, where it is used to refill the trays, and the process repeated.

The process, it should be noted, involves the use of powdered starch, one of the most dangerous of the explosive[1] dusts.

Origin of Blast in Doubt

There appears to be some difference of opinion as to the cause of the initial explosion and the events leading up to it. There is agreement that the destruction and fatalities resulted from an initial explosion of great severity. But reports appear to differ as to the origin of the explosion itself and propagation of the fires.

According to the Factory Mutual Record, "Evidence indicates that starch in the dryer apparently ignited and smoldered, and that when fans or blowers were started, sparks were blown through the system and touched off a mild explosion in the associated dust-collecting equipment. The primary explosion caused a more violent one, evidently in dust shaken loose in the Mogul, and this in turn dislodged starch from stacked trays, beams, piping and ductwork, in drying rooms and manufacturing areas and resulted in the final, terrific blast."

The report of the fire department, however, throws a different light on it, and suggests that instead of the explosion being touched off when fans or blowers were started, it could well have been the result of attempts to extinguish a fire by plant workers.

This report, to Fire Commissioner and Chief Fire Marshal,[2] has this to say: "It was apparent . . . that prior to the explosion, something of an unusual nature occurred.

"It was noted that four 2½-gallon soda and acid fire extinguishers were removed from their locations; three of which were expended, and that the 1½" fire hose located on a concrete column at Bay 12 was partially stretched toward Dry Room 5, indicating some of the employees were attempting to extinguish a fire.

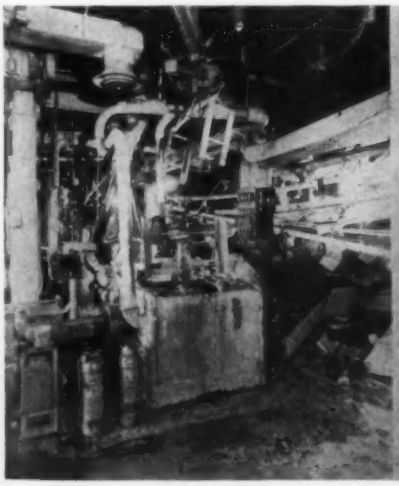
"It is apparent that in so doing, starch or other combustible dust stored in this vicinity was disturbed, whereby it became suspended in the atmosphere, forming an explosive mixture. This mixture became ignited and started a chain of explosions resulting in serious damage to the building and contents and the death of fifteen persons and injuries to others."

The Fire Department report states that the exact location in which the explosion originated appears to be the third floor, in the vicinity of Bays 12 and 17 inclusive, of Building A. "It is apparent," the report continues, "that the original explosion was followed by progressive explosions on the fourth floor and on the third floor of Building L. Fire followed the explosions, involving the entire third and fourth floors of Building A and communicated to the third floor of Building B."

The extent of the damage caused by the explosions is graphically illustrated in the accompanying photographs. According to the fire department's report, structural damage to the third and fourth floors of Building A was so severe it has necessitated the removal of these floors. During the height of the

[1] "The most hazardous, the most easily ignited and the most explosive dusts are from sugar, dextrine, coal, starch and cocoa." Dominge and Lincoln, "Fire Insurance Inspection & Underwriting."

[2] Report of Frank A. Thielman Chief, 23rd Battalion, detailed to fire headquarters, Chicago Fire Department, following an investigation.



Third Floor, Building "A," 26 Feet West of East Fire Division Wall, 60 Feet North of South Wall, Looking West; Showing Two 2½-Gallon Soda and Acid Fire Extinguishers Set on Floor Adjacent to No. 4 Mogul Candy Machine. One Was Expended, the Other Unused.

Third Floor, Building "A," Showing Standpipe Location on Concrete Column, Located in Bay No. 12, Third Column from South Wall, Looking Northwest; Showing Two 2½-Gallon Soda and Acid Fire Extinguishers Alongside of Column; also Approximately 80 Feet of 1½-Inch Fire Hose That Was Stretched Previous to Explosion. Both Fire Extinguishers Were Expended.

Collector and Tin Clad Building Damaged by the Explosion, Followed by Fire, Which Communicated to Wooden Gravity Tank. Note Metal Canopies over Drying Rooms Blown from Position by Explosion.

fire fighting operations, firemen were ordered off upper floors when it was found the blasts had caused them to buckle in places.

Four separate investigations were undertaken, following the blast, to ascertain the cause. These inquiries were conducted through the fire department, in charge of Earle R. Downes, city fire attorney; the coroner's office, police and representatives of the insurance companies.

According to John L. Fenn, chief of the fire department's fire prevention bureau, the inquiries disclosed that an inspection last January 23, had turned up 37 violations of fire regulations in the plant; however, Chief Fenn is reported as having said he believed most of these violations had been remedied and that the company had a good record for compliance with fire department regulations.

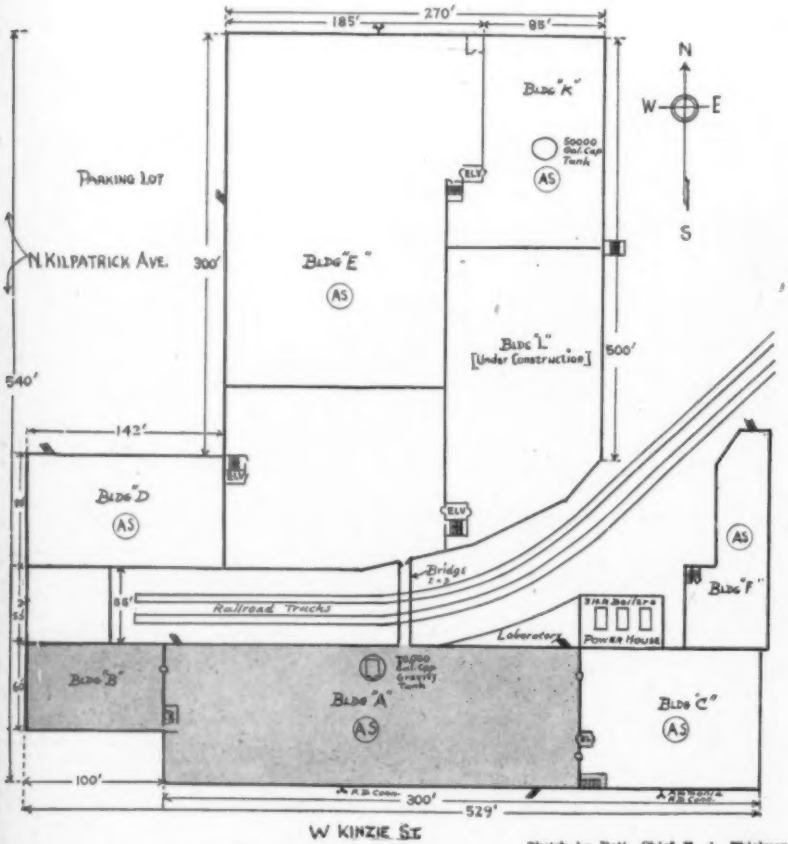
The estimates of property loss varied from $500,000 to $1,000,000. That the actual loss will be heavy is certain because the disaster came at a time when the company was rushing orders to meet the heavy holiday demand.

The rapidity with which the officials of the Chicago Fire Department sized up the seriousness of the emergency is indicated by this chronological tabulation of alarms and the response:

Dawn Reveals Destruction at Brach Candy Plant, Chicago

Overhauling continues as firemen pick up. Note evidences of blast and fire on third and second floors—blown out and twisted metal window frames and fire escape; burned trucks at loading platform (rear) and cluttered area which complicated rescue and fire fighting operations.

Time of Alarms	Nature of Alarms
4:13 A.M.	Still alarm—4656 W. Kinzie St. (via Fire 1313).
4:13 A.M.	Box 5279 (Kinzie and Kilpatrick). Struck by Fire Alarm Office.
4:16 A.M.	2:11, Box 5279 (second alarm). By Chief Quilter, 23rd Battalion.
4:17 A.M.	3:11, Box 5279 (third alarm). By Chief Quilter, 23rd Battalion.
4:20 A.M.	Special duty ambulances 1-2-3-6-7-8 and Patrol 2. By Chief Quilter, 23rd Battalion.
4:28 A.M.	4:11, Box 5279 (fourth alarm). By Chief Powers, 2nd. Division.
4:28 A.M.	5:11, Box 5279 (fifth alarm). By Chief Powers, 2nd Division.
4:35 A.M.	Special call, Box 5279 for five engines. By Chief Dahl, 2nd Deputy Chief Fire Marshal.
4:35 A.M.	Special call — Fire Insurance Patrol 1. By Patrol Officer in charge.
6:41 A.M.	Fire out. By M. J. Corrigan, Fire Commissioner.



Sketch by Batt. Chief F. A. Thielman

Ground Plan—Brach Candy Plant. Darkened Area Indicates Buildings Involved by Fire. "AS" Denotes Automatic Sprinklers.

These alarms brought a total of forty-eight units of apparatus to the scene, as follows:

Engine companies	27
Ladder companies	5
Squad companies	3
Water tower	1
High pressure wagons	2
Ambulances	7
Fire Insurance Patrols	3
Total	48

It is reported that Ambulance 10, Ladder 64 and Engine 67 were the first fire department units on the scene.

The chief officers present at the fire were: Fire Commissioner M. J. Corrigan; Chief Fire Marshal A. J. Mullaney; 2nd Deputy Chief Fire Marshal Otto Dahl; Division Fire Marshal Thomas W. Powers, 2nd Division; Battalion Chief Richard Quilter, 23rd Battalion; Battalion Chief Patrick Higgins, 18th Battalion; Battalion Chief John F. Finnin, 28th Battalion; Acting Battalion Chief Michael J. Fitzgerald, 24th Battalion; Assistant Chief Officer C. Jenson, Fire Insurance Patrol.

Rescue Started Immediately

First arriving firemen encountered evidences of the blast in the debris

which was "catapulted over an area two blocks square." Frightened residents in the neighborhood rushed to the street clad in night clothes. Some injured victims were found outside the plant. Workers not badly injured, dragged or carried some companions from the ruins. Fire, which followed the initial explosion, rapidly involved the third floor of Building A (see diagram) and as progressive explosions occurred, the fire propagated in the fourth floor of this building and on the third floor of Building B. Before all the fire companies summoned on the multiple alarms reached the scene, the fire had involved the entire third and fourth floors of Building A, and the third floor of Building B.

No time was lost laddering the structures involved, while other firemen stretched in to standpipe connections and carried hand lines up ladders and fire escapes.

It was quickly ascertained that the explosions had ruptured the sprinkler risers and piping, reducing their effectiveness in controlling the fire, even though two hose lines were connected by the department into the siamese sprinkler connection to augment the water supply.

In addition to the involvement of the upper parts of Buildings A and B, the tremendous heat of the explosion started other fires at widely scattered points. One such fire involved the wooden gravity tank on top of Building A. Fire also communicated to fifteen motor trucks which firemen reported were at the loading platform at the time of the blast. Flaming debris, which rained down over the area, also started other minor fires, all of which were quickly quenched.

According to Factory Mutual Record, several hundred sprinklers opened, overtaxing the systems, which were already partly crippled by broken branch piping.

Firemen had no way of knowing immediately how many victims remained in the blasted, burning structures; it was known that the plant employed a large number of personnel and that the night shift was on duty at the time of the disaster. First reports placed the total at the time of the fire at 200, of which it is said thirty were at work in the immediate neighborhood of the initial explosion. It is said that it was fortunate the blast came just before another shift of workers was due to report for duty. Total personnel employed by the company is said to be between 2200 and 2400 persons.

Firemen at imminent risk of their lives, dashed into the plant to reach victims, in some cases without waiting for the protective cover of hose streams.

Firemen attacked the blaze from the McKinzie and Kilpatrick thoroughfares and from the rear where streams were directed from the tops of freight cars. Turret pipes were brought into play from every vantage point, while hand lines were operated from ladders and roof extensions. A determined effort was made to prevent extension of the fire across the enclosed bridge, connecting Building A with other structures on the other side of the railroad tracks. In this, firemen were successful. Twenty-six hose streams were reported used.

Fire and police ambulances were employed to remove twelve victims to hospitals. One fireman was injured sufficiently to require hospitalization.

A heavy complement of the fire insurance patrol, Companies 1, 2 and 7, under the direction of Assistant Chief Officer Curt Jenson, spread 160 waterproof covers over stock and machinery and assisted the Fire Department in other operations.

Special details of police were required to handle the crowds of spectators, estimated at fully 15,000 in number.

N. C. Chiefs for Stronger Laws

A campaign for local laws that would tighten the fire safety precautions in places of public assembly was indorsed at a meeting of the North Carolina Fire Chiefs Association meeting in Charlotte, Monday, December 13.

Among other measures which the chiefs would sponsor in their various towns are ordinances to require that solid-wall buildings be equipped with automatic sprinkler devices, provide for the regulation of smoking in stores and places where inflammables are kept, and compel flameproofing of tents used for public gatherings.

The delegates also agreed to ask adoption of a bill which would give compensation protection to firemen for injuries incurred in fighting any fire. The protection now ends on fires beyond the 12-mile limit of a department's jurisdiction.

Chief Charles Burkett of Salisbury, president of the N. C. Fire Chiefs Association, said that the program of local legislation which members were asked to support for their various municipalities probably will become an eventual goal for statewide adoption.

President Burkett said instructions were issued to the legislative committee to keep alert against any possible move to revise the statewide fire regulations on hotels. Adopted at the 1947 session of the General Assembly, the statute is regarded as a model and has been enacted by several other state legislatures, Chief Burkett reported.

D. C. Spencer

Children Made Fire-Conscious

Pupils of the public and parochial schools of Quincy, Ill., are being taught how to transmit a fire alarm by telephone and are being told about the danger of fire and the necessity for constant fire prevention in a novel way by members of the details at headquarters.

The idea developed while the schools were given their semi-annual inspection by the department. Teachers were urged to bring their pupils to headquarters, and, up to Nov. 11 more than 4,000 had responded. After the pumpers, aerials and rescue squad trucks are shown to the pupils, they are told how to call the fire alarm switchboard and transmit an alarm.

Each pupil is given a lead pencil with the fire alarm number on it. And every one of the pupils puts his or her name in a book.

Lloyd Boden, second assistant chief, is a former bicycle repairman. He hit upon the idea of getting old bikes, making them like new and giving them away at Christmas to pupils who registered at headquarters. Winners were selected by lot. The plan adopted by Quincy firemen has made the school children fire alarm and "bicycle conscious."

Earl Nolan

West End of Building "B" Looking Directly East, Showing Damage to Exhibition Offices and Gum Drying Room.

U. L. Tests of Extinguishers Show Fire Fighting Qualities

Practical Fire Extinguishing Operations Determine Effectiveness of Different Units

WHEN fire extinguishers are tested by the Underwriters' Laboratories, Inc., for approval, the tests are not confined to the construction and functioning of the units as commonly believed. Instead, ability to control fires within their scope is also determined by employing them on "standard" test fires.

While the Laboratories have a wide variety of fire tests that are used from time to time, on extinguishers that have been well standardized, they generally check fire extinguishing capacity by using two, three or four types of fires as conditions dictate.

All of the fire tests are run indoors, where conditions can be fairly well controlled for reproductability.

As to the maximum time allowed for fire extinguishment, this is a function of the extinguisher characteristics. The Laboratories expect that the fire will be extinguished by the time the extinguisher discharge has ceased.

In the tests outlined below, the 10 by 10-foot panel and the 4 by 8-foot excelsior fires have been used only in the investigation of loaded stream fire extinguishers and the 2½-gallon and 5-gallon pump tank extinguishers. These are strictly Class A fires.

The Laboratories do not use the Class A fires in the investigation of vaporizing liquid (carbon tetrachloride base) extinguishers in any sizes.

In the investigation of 1-quart and 2-quart vaporizing liquid estinguishers, 2½-gallon loaded stream extinguishers and 4-pound dry chemical extinguishers for Class B classification ratings, the principal tests are run with 2-foot tub and 2 by 4-foot cotton waste fires.

In the case of the 30-pound dry chemical, 15-pound carbon dioxide and 2½-gallon foam type extinguishers, the most important emphasis is on the extinguishing performance on a 4-foot tub and 4 by 8-foot cotton waste fire.

Acknowledgment is made to C. J. Koskinian, Assistant Engineer, Gases and Oils, Underwriters Laboratories, Inc., for his generous cooperation in making these test data available to the readers of this journal.

Test No. 1

Vertical Area of Burning Wood (10 by 10 ft. Panel Fire)

Test to determine the efficiency of an extinguisher when used in attacking a fire covering a vertical area similar to a wall section. Temperatures of extinguisher 20 C.

MATERIAL TO BE ORDERED FOR TEST:

1. 28 pieces of 1 by 6 in., No. 1 yellow pine flooring (kiln dried) 10 ft. in length.
2. 180 pieces of 1 by 1 in. No. 1 clear fir S4S strips (¾ by ¾ in.) each 10 ft. in length.
3. 2-gallons fuel oil.
4. 20 lb. of woodwool excelsior (Seasoned Basswood).

ARRANGEMENTS OF TEST SAMPLES:

A solid square plane approximately 10 by 10 ft. in dimension is constructed with 24 of the 1 by 6-in. yellow pine flooring pieces, care being taken to secure tight joints between these boards. The ends of the board are nailed to two 1 by 6-in. battens and between these is located the third batten. The square thus constructed forms a backing and support for the lighter material which composes, in a large part, the fuel of the test fire.

Six 1 by 1-in. 10-ft. fir strips are then placed equally two feet apart, extending from top to bottom of the square. This furring supports a layer of 78 of the 1 by 1-in. fir strips extending from side to side of the 10-ft. square and located about ¾ in. apart. A second set of furring strips is then nailed directly over the first, this set in turn serves to support a second layer of horizontal strips identical in character and arrangement with the first.

The test sample, when completed, is laid in a horizontal position and the 2 gal. of fuel oil (sp. gr. 29-30 Baume) are sprinkled uniformly over the entire area.

The sample is then placed in a vertical position in the rear of the hut and is secured to a horizontal channel bar, located 9 ft. above the floor, by means of iron wire wound around the bar and nails driven into the ends of the 1 by 6 in. pieces of flooring.

The 20 lb. of excelsior (woodwool, seasoned basswood) is divided into four separate windrows of 5 lb. each. The excelsior is pulled apart and each windrow is made equal in length to the width of the sample. The first windrow is placed directly against the base of the test sample and the three remaining windrows are held in reserve about 10 ft. from the front of the test sample.

IGNITION, TIME AND METHOD OF ATTACKING FIRE:

A fuse of gasoline is made by quickly pouring on the floor a stream of gasoline through a ⅛-in. spout along the front edge of the first windrow at the base of the test sample. This gasoline is then ignited at the middle of the windrow with a match. Exactly 45 sec. later when the windrow of excelsior which is at the base of the test sample is practically consumed, the first row of the reserve supply is pushed against the base by a long pusher (a board 10 ft. in length provided with two long handles at each end) to take the place of the first, and the remaining rows are pushed up at 45 sec. intervals.

At exactly three minutes and twenty seconds after ignition all of the remaining excelsior is cleared away from the now vigorously burning panel. This is done by means of a 1 by 1-in. stick 10 ft. long.

With the above method of ignition, the resulting fire will last about seven minutes before showing signs of diminution and about twelve minutes before the horizontal strips are completely burned away between the furring strips. The horizontal strips on the lower portion of the burning surface suffer most severely from the successive excelsior ignitions and thereafter receive the best of the air supply so that they will be burned away somewhat in advance of those covering the upper portion of the surface. The extinguisher is to be applied soon after the lower strips begin to fall away; this time has been found to be about 5 min. after starting. In this the operator is to use his judgment as to the exact time.

The extinguisher is operated at first not closer than 10 ft. from the sample but at the end of 20 sec. may be used at a closer range at the discretion of the operator.

OBSERVATIONS:

The data to be recorded.

A. Time 2nd windrow is pushed up.
B. Time 3rd windrow is pushed up.
C. Time 4th windrow is pushed up.
D. Time fire is cleaned.
E. Time of attack.
F. Time fire out.
G. Time extinguisher exhausted.
H. Glowing spots recorded (increasing or decreasing).
I. Time test is discontinued.
J. Condition of charred 1 by 1-in. strips.
K. Size and location of flames if not entirely extinguished.
L. Experienced or inexperienced operator.

Test No. 2

Four by Eight Excelsior Fire

Tests to determine the extinguishing power of an extinguisher, when used in attacking a fire of burning excelsior.

This type of fire, together with others of loose material and light nature are extremely difficult to standardize in a satisfactory and definite manner. This is due to the fact that a very slight change in quality, condition or looseness of material will affect the rapidity and completeness of the combustion. It has been found, however, with proper manipulation of the extinguisher, this particular fire can be satisfactorily extinguished.

ARRANGEMENT OF TEST SAMPLE:

The fuel for this test consists of 12 lbs. of excelsior (woodwool, seasoned basswood). This is loosely and evenly spread over an area of 4 by 8 ft. on a large sheet-iron pan about 6 by 8 ft. and 2 in. deep. The excelsior is packed down to a 1 ft. depth.

The pan is placed in the center of the test chamber with the back of the pan 2 ft. from the rear wall.

IGNITION, TIME AND METHOD OF ATTACKING FIRE:

A fuse of gasoline is made of quickly pouring on the floor a stream of gasoline through a ⅛-in. spout along the front edge (8 ft. side) of the excelsior bed.

With the above material and method of ignition, the flames will reach the middle of the bed at about 20 sec. after ignition. It is attacked when the flames reach the center of the bed and the time is recorded.

The fire is attacked from a distance of 15 ft. and approach is made from the front (8 ft. side).

OBSERVATIONS:

The data to be recorded.
A. Time of attack.
B. Time of flames out.
C. Time extinguisher exhausted.
D. Time smouldering spots discovered, if any.
E. Time flames reappear.
F. Time test discontinued.
G. Any other data of interest.

Test No. 3

Two Foot Tub Fire Test

The fuel for this test consists of one-half gallon of gasoline.

The container for this gasoline consists of a sheet metal tub 11¼ in. high on the inside, 24 in. in inside diameter at the top and 21 in. in inside diameter at the bottom. A sufficient quantity of water is poured into this receptacle to bring its level about ten and one-half inches below the top of the tub. Two quarts of gasoline then are poured into the receptacle.

The gasoline is ignited by throwing a match into the receptacle.

With the above material and method of ignition, the flames will reach their maximum in about twenty seconds and continue at this rate until the gasoline is nearly all consumed, consequently the extinguishing agent should be applied 20 sec. after starting. The fire is attacked by directing the stream on the inside and back surface of the tub, above the liquid level, and the operator is allowed to encircle the tub in his attempt.

OBSERVATIONS:

The data to be recorded:
A. Time of attack after ignition.
B. Time fire is put out after beginning attack.

Test No. 4

2 x 4 ft. Cotton Waste Fire Test

Eight pounds of loosely fluffed cotton waste are spread over an area of 2 by 4 feet on an incombustible floor or pan. The pile is packed down to a depth of 6-in. Two quarts of gasoline are sprinkled over this pile using a garden type sprinkling can.

INDEX FOR 1948

The index, covering the twelve issues of Fire Engineering for 1948 is now ready for distribution.

Your copy will be mailed free upon request.

The gasoline is ignited by throwing a match into the center of the pile.

The fire is attacked 10 seconds after ignition by approaching one narrow edge of the cotton waste pile and working back with the discharging stream toward the other end of the pile.

OBSERVATIONS:

A. Time of attack after ignition.
B. Time fire is extinguished after beginning attack.
C. In case fire is not extinguished, record to what extent flames are driven off surface at time extinguisher is exhausted.

Test No. 5

Four Foot Tub First Test

The purpose of this test is to determine the ability of a 2½-gal. foam extinguisher to control a fire in a hazardous liquid container of the size described below and to determine the stability of the foam in a blaze.

EQUIPMENT AND MATERIALS:

1. The tub in which the liquid is burned is a sheet-iron vessel 4 ft. in inside diameter and 24¼-in. deep (inside).
2. Water.
3. Two gallons of gasoline.
4. Stop watch.
5. Two and a half-gallon foam extinguisher (Solutions at 20 C).

METHOD OF CONDUCTING TEST:

The tub is filled with water (at about 70 F. if possible) to within 10½ in. of the rim. The gasoline is poured on the water and then ignited. The stop watch is started at the time of ignition. After the gasoline has burned 20 sec. the fire is attacked with the 2½-gal extinguisher from a distance of 15 ft. The stream should be played over as great an arc as possible upon the far inside exposed wall of the tub and as near to the surface of the water as possible without splashing any of the gasoline about. When the intensity of the fire decreases, the operator should approach the tub slowly in a straight path. When within a few feet of the tub he will be able to play the stream through about 180 F. Do not circle the tub in making the attack, but approach from one direction only. Filling in by directing stream at possible open spaces in the front side of the tub is not resorted to.

OBSERVATIONS:

The data to be recorded:
A. Time of attack.
B. Time fire is put out.
C. Time extinguisher is exhausted.
D. Extent of fire if not controlled when extinguisher is exhausted.

A 2½-gal foam extinguisher should entirely extinguish the blaze.

After the fire is out, the quality of the foam should be noted and recorded. It should be opened up in a number of places and the gasoline should be reignited. A good foam should generally close over the new fires. The foam is usually found to be rather stiff along the side where the stream has been played upon it, hence opening the foam in this field will usually only give one an idea of how the foam burns down in a blaze.

Test No. 6

Four by Eight Foot Cotton Waste Fire

METHOD OF PREPARING TEST SAMPLE:

Fifteen pounds of loosely fluffed cotton waste are carefully and evenly spread over an area of 4 by 8 ft., making a depth of about 3 in. This pile is then sprinkled with five quarts of gasoline which is applied out of an ordinary sprinkling can. Shortly after completion of the test sample ignition should be made as the evaporation of the volatile gasoline may create an undesirable condition.

METHOD OF CONDUCTING TEST:

Ignition is accomplished by throwing a match on the test sample, with care taken not to stand too close while match is applied. Attack is made 10 secs. after ignition. Notes are taken on all items of possible interest, particularly with respect to time of control or failure, and ease of difficulty with which control was accomplished.

OBSERVATIONS:

A. Time of attack after ignition.
B. Time fire is extinguished after beginning attack.
c. In case fire is not extinguished, record to what extent flames are driven off surface at time extinguisher is exhausted.

More Woe for Woburn Firemen

There's apparently no end to the trials and tribulations of Woburn, Mass., firemen. In February, they were hailing the millenium when at last they appeared to have won a 48-hour week. Their joy was short-lived, however, when Mayor William E. Kane gave his brother, Fire Chief Michael J. Kane, a work schedule requiring the men to work some part of every day through the week.

The week-work and day-work was so split up that each fireman worked three hours, then took nine hours off, then came back for another three hour stint and then was off for nine more. When firemen and their wives rebelled, Mayor Kane said he did it so as to keep firemen from getting outside jobs in their spare time.

Woburn firemen sought the aid of the courts and Legislature in order to get a 48-hour week more in keeping with what they thought a 48-hour week should be. The Legislature cooperated and a vote of Woburn citizens on a referendum appeared to back them up. The wanted continuous eight-hour stint appeared in sight. Then on December 1, 1948, Mayor Kane presented them with their new schedule.

Under this plan, the first shift goes on at 3:00 A. M. It works until 11:00 A. M. The second shift comes on at

(*Continued on page* 65)

THREE AUTOMOTIVE PLANT FIRES KEEP DETROIT DEPARTMENT BUSY

Occur Within a Period of 72 Hours; Loss at One Totals Half Million Dollars

By Joseph A. Kleefuss

THE metropolitan area of the City of Detroit, Mich., was the locale for three extra alarm fires within a space of less than 72 hours. All three fires involved industries associated with or actually producing automobiles.

The cycle began shortly after 4:00 A.M. on Wednesday, December 15th, when the Detroit Fire Department's central telegraph bureau received an A.D.T. alarm from the Briggs Manufacturing Company. Immediately preliminary box 2-9397, connected with the street box located at Gladwin and Mack avenues in the eastern section of the city, was operated. This is a heavy response box, the first alarm assignment being three engine companies, Nos. 45 (located one block east of the plant), 32 & 41, also ladder companies 19 & 14 together with Rescue Squad No. 3. The entire assignment was in command of the Chief of the Sixth Battalion.

When Battalion Chief Brown, who makes his headquarters with the second due engine company, arrived, he discovered a potentially dangerous fire with serious exposure hazards. This called for second and third alarms, bringing six more engine companies, Nos. 26, 52 and 46 together with Ladder company No. 10 and the Chief of the 12th Battalion on second alarm; engine companies 11, 36 and 7 together with Ladder 29 on third alarm. This placed 9 engine companies and 4 truck companies on the fire scene. Rescue Squad No. 1 also responds on second alarm from fire department headquarters. The third alarm brought the Chief of department, Ninnian Higby. The fire department ambulance, light unit, gasoline truck and bureau chiefs also respond on the multiple alarm.

In order to cover the extensive area left without fire protection, the department's running cards are so designed as to retain two or three engine companies and one ladder company in reserve. These companies in the reserve column do not respond on the multiple alarm. These companies are located in the general fire area and would normally be the third alarm assignment. The reserve companies for box 9397 were Engines 38, 18 and 50 together with Ladder 31. In addition, the following companies were relocated by the fire alarm dispatcher: Engine 15 to 45; Engine 12 to 26; Engine 39 to 46; Ladder 2 to 29; and Ladder 9 to 14 . The importance of this maneuver will be apparent later.

The fire in the Briggs Manufacturing Company's Mack Avenue plant is believed to have started in grease around a conveyor bringing doors for automobile bodies to the enamel room. It leaped to the wooden underpinning of the roof of the high one-story building where it extended rapidly. Fortunately, the first arriving companies were able to prevent the fire from spreading to the highly inflammable enamels, while the extra alarm companies cut down the spreading roof fire. In spite of the dangerous nature of the fire, damage was not extensive. Much credit must be given to the department for an excellent stop on this fire. Approximately 200 feet of the roof was destroyed. Other damage was small and it was not believed to be serious enough to interfere with the production of automobile bodies. No one was injured, some 200 workingmen leaving the building without difficulty.

One interesting sidelight was furnished by Engine company No. 15. This company is located on the west side of the city and was sent to fill in for Engine company No. 45 (first due company). Traveling across nearly 9 miles of the city with their open pumper in the worst kind of weather (a freezing rain was falling), they arrived somewhat the worse for wear. The company had nicely settled down with their steaming cups of coffee when the register began to tap out the Budd Wheel Company's preliminary box 2-9428. This plant, also an automobile supplier, is about one mile from the Briggs plant. The response to this box is Engines 45, 32, and 38 together with ladders 29 and 14. Fortunately all companies were available except Engine company 32 and this company was covered by Engine 26 which itself was actually a fill-in company. Both truck companies were also fill-in companies. This fire proved to be of some consequence and could easily have developed into a multiple alarm except for the prompt response of the department in force. It is to be noted that Engine 38 and Ladder 29 recorded something like two hours of fire service. Had Engine 45 (actually a fill-in Company) taken the fire, it would have been an exceedingly rough night for the west-siders.

The second of the three multiple alarm fires was not within the limits of the City of Detroit, being located just beyond the city's boundaries in the neighboring city of Dearborn. This fire, which occurred shortly after 6:00 P.M., December 16, struck a portion of the Ford River Rouge Plant, thought by many to be the largest single industrial concentration in the world. The fire was discovered by a worker in the balcony of "B" building housing the upholstery department. It spread rapidly beyond the power of the plant department to control and help was called from the city of Dearborn. In spite of a general alarm assignment, it was obvious that the fire could not be controlled with the fire forces at hand and a call was dispatched to Detroit for aid. Such assistance could be expected under an agreement between the two municipalities. At 6:49 P.M., 4 engine companies (37, 34, 22 and 15) were dispatched from their west side stations together with High Pressure Company No. 3. At 7:15 P.M., 3 additional engine companies (12, 49 and 55) were sent to the Ford Plant.

The cause of the fire, which spread through about a quarter of a mile of the "nerve center" of the great Rouge factory, is not known at this time. The fire damaged approximately 200 new car units in various stages of assembly, ranging from partially assembled units to cars nearly ready to leave the line. First arriving fire department units rescued three men trapped on a balcony and six women who found themselves cut off in a rest room. More than 300 other employees who were in the building when the fire began, escaped unaided. Many were forced to go home in their work clothes when the fire destroyed lockers in which overcoats and jackets were placed.

A more disastrous fire was averted when the flames turned down toward

Blistered Cars on the Twisted Assembly Line at Ford's River Rouge Plant Bear Evidence of the $500,000 Fire That Swept Through the Factory, December 15, Destroying 200 Autos and Halting Production Indefinitely

the assembly line and away from the paint kitchen on the other side of the upholstery department. The upholstery, trim and paint spray departments were destroyed. Smoke and water caused heavy damage to stock. The loss is expected to reach one-half million dollars.

The third and last of the extra-alarm fires was one at the Bohn Aluminum and Brass Corporation. This plant is practically across the broad Mack avenue from the Briggs plant visited earlier. The fire, which was reported to the fire department about 5:00 A.M. December 17th, developed when a broken fuel line sprayed oil into a caldron of molten aluminum. A column of flame shot 50 feet to the wooden roof. The fuel oil streamed under pressure from a half-inch pipe that had snapped above one of 24 smelting pots. Flames quickly covered the entire 15,000 square feet of roof above the foundry room.

The first alarm assignment to box 9424, Mack and Hart Avenues, was augmented by a second alarm. The six engine companies, three ladder companies, together with Battalion chiefs and special equipment, was identical with that responding to the earlier Briggs fire.

It should be noted that the $50,000 loss would have been substantially greater had not the foundry area been effectively walled off from the plant proper.

RICHMOND FURNITURE STORE BLAZE MOVES ALL CITY'S FIRE APPARATUS

Thirty Pieces Operate at Fire; Other Units Move In to Cover Unprotected Areas

CHARACTERIZED as the city's worst fire since the blaze of 1944 at the same scene, a near-conflagration on the night of November 12 last swept through the Rountree Furniture Store, Richmond, Va., and spread to the adjoining Masonic Temple in the heart of "furniture row," causing an estimated damage of $200,000.

Rountree's Furniture Store is located at 111-115 West Broad Street. Adjoining on one side of the four-story brick structure is the Masonic Temple, housing on the ground floor the Gerson Furniture Company. Adjoining the Rountree Store on the other side is the same firm's appliance store—re-built following a costly 1944 blaze. Adjoining this structure, is Gathright's Appliance store, and next to that on the corner is the Columbia Furniture Company. These buildings, and most of their contents, were highly combustible.

The fire, discovered shortly before 6:00 P. M., is believed to have originated on the fourth floor of the Rountree building near the elevator shaft. It was seen by an employe who telephoned fire headquarters, which dispatched an engine company. As quickly as these firemen arrived and sized up the extent of the fire, a box alarm was sounded, followed by second and third alarms, and of special calls until over thirty pieces of fire apparatus were in operation at the scene. Every piece of fire apparatus in the city was moved, either to operate at the fire, or to cover up unprotected areas. All off-duty firemen who could be reached, were called into service; pressure on the city's pumping station was increased.

The glare in the sky, as flames broke through the Rountree Store roof, the flying sparks, and the movement of apparatus, plus the radio broadcasts by a local station, brought crowds of spectators estimated at more than 10,000 persons, giving police a tough time.

Despite employment of heavy streams from the water tower (in use for the first time in years), street and fire escape hose lines, and foam ladder pipes, the fire fed by furniture and mattresses, spread to involve the upper floors and roof sections of the Rountree Building, and the Masonic Temple. The roof of the latter was badly damaged, and the remainder of the structure, together with the lower sections of the Rountree Store, and the adjoining structures, suffered heavy smoke and water damage.

Five firemen were injured or overcome by smoke fighting the blaze. Eight others narrowly escaped injury when flames broke through the front of the Rountree Store as they operated from a ladder against the building.

Fire fighting operations were directed by Acting Chief A. F. Taylor, in the absence of Chief John E. Finnegan, who was attending the Miami Convention of the International Association of Fire Chiefs. The fire was under control at 9:40 P. M., but firemen remained with watch lines throughout the night.

The alarms and response were as follows:*

5:51 P.M. Telephone alarm to Fire Alarm Signal Office reporting a motor on fire on the fourth floor of Rountree's Furniture Store. Engine 5 (located about one block distant) pumper and wagon. Battalion Chief C. W. Hirschberg. On reaching the fourth floor, firemen found a large quantity of new furniture, still enclosed in wrapping of excelsior and paper. Fire had reached some of this furniture and Chief Hirschberg ordered street box 151, Adams and Broad Street, pulled.

5:55 P.M. Box 151—Engines 3, 4, 6; Ladders 1, 3.

5:58 P.M. Second alarm—Engines 7, 9, 10; Rescue Squad; Assistant Fire Chief A. F. Taylor.

6:01 P.M. Third alarm — Engines 1, 12.

6:02 P.M. Signal 10-5-3. Box 151—Special call for Water Tower 1.

6:06 P.M. Signal 10-2. Box 151—Engine 2.

6:07 P.M. Signal 10-1-3. Box 151—Engine 13.

6:30 P.M. Signal 10-1-4. Box 151—Engine 14.

*FIRE ENGINEERING is indebted to T. S. Monday for this data.

Richmond Firemen Control Threatening Fire in "Furniture Row"

Upper floors of Rountree Furniture Store and Masonic Temple wrecked with loss of $200,000. Over 30 pieces of apparatus fought night battle to control flames. Shown are heavy streams operated from Broad street side.

6:31 P.M. Signal 10-8. Box 151—Engine 8.
7:16 P.M. Signal 10-4-2. Box 151—Ladder 2.
9:51 P.M. "Back tap" ("one lick") indicating fire under control. Some equipment remained at scene until 6:00 A.M., Nov. 13. About ten firemen with charged 2½-in. line remained at scene until 12:00 noon, the 13th.

All battalion chiefs off duty returned to duty on the second alarm together with a large number of off-duty firemen.

FIRE ENGINEERING's correspondent reports that a local radio station broadcast a "play by play" description of this fire from the roof of a building located across the street from the fire. The announcer interrupted his vivid descriptions of the blaze to ask his listeners not to go to the fire. Of course, says the correspondent, this resulted in a great number of persons speeding to the scene. Estimates of the number of spectators vary from 10,000 to 20,000. All off-duty policemen were called into action.

Post Fire Prevention Notes

JACKSON, MICH.—The Jackson, Mich. Fire Department, Chief Harold Crawford, waged the most extensive fire prevention campaign in its history, this year. Three fire prevention shows were held, with over 10,000 persons in attendance. In addition two contests were conducted to whet interest in the week. One, the selection of "Miss Flame," was limited to red heads. Loretta Buck was the selected beauty. In competition, several prizes were given for the best fire apparatus built by boys up to 15 years.

The program was extensive, and in addition to the foregoing, included a parade of all apparatus before the grand stand; crowning and introduction of "Miss Flame" as "Queen of the Show"; parade of soap box model fire trucks, and the awarding of prizes. In addition, there were evolutions postponed by the fire department. Fire apparatus was shown leaving quarters, responding, arriving at the fire, saving life, performing fire extinguishing operations and salvage work.

Distinguished British Officer Guest of Inglewood, Cal., Fire Department
Inglewood's Fire Chief Bacil Roberts welcomes Chief Fire Officer F. W. Delve of London, England, as guest of that western city, highlighting Fire Prevention Week.

Chief Crawford had the full cooperation of the city, its manufacturers, merchants and municipal bodies. Schools were closed for the afternoon show, which was directly by Assistant Fire Chief Ray Howard. As a crowning gesture, manufacturers tendered the fire department a banquet for its fine achievement and past record in holding fire losses in Jackson to a minimum.

* * *

INGLEWOOD, CALIF.—The Inglewood Fire Department had a very successful fire prevention program, high point of which was the visit to Inglewood, by invitation of the city Chief Officer Delve of the London, England, Fire Brigade.

Chief Delve was the honored guest and speaker during fire prevention week at the Inglewood Chamber of Commerce annual breakfast. At that time he was made an honorary fire chief of the Inglewood department and presented with a chief's badge by Bacil Roberts, Inglewood Fire Chief. Pres. Walter Keefe, of the Chamber of Commerce, also presented the distinguished visitor with honorary membership in that organization.

Chief Office Delve was given further samples of Western hospitality by Fire Chief Sandeman of Long Beach, and John Alderson of Los Angeles, who took him on tours of their respective cities and fire departments. He met two score fire chiefs from communities in the Inglewood area at a reception. Jay Stevens and other members of the National Board of Fire Underwriters also were present.

During Fire Prevention Week, Chief Officer Delve was the honored guest of all the service clubs and the Northrup Aircraft Co.; Robert Hadow, British Council General was guest speaker at these meetings.

In addition to featuring this distinguished guest the Inglewood department promoted Fire Prevention Week in other ways, through window displays in the J. C. Penny Co. stores and elsewhere, and the inauguration of a Junior Fire Prevention Bureau in the schools.

* * *

EL DORADO, ARK.—The El Dorado Fire Department, Fire Chief Frank H. Smith, reports a thrill-packed Fire Prevention Week. Observances included a three-day inspection of all buildings in the city by thirty insurance executives from all over the state, and a stage show illustrating fire safety for the public school children.

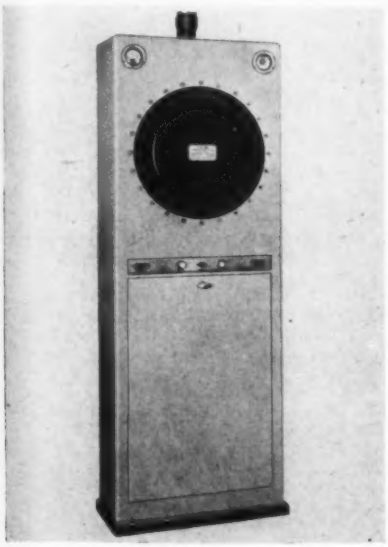
Aiding the fire department was the Junior Chamber of Commerce, the local press and other agencies. The objective was to raise El Dorado from the status of sixth class to first class among Arkansas cities.

The local Daily News gave the program a full four-page newspaper section and the Times pictured actors in the show put on by the Arkansas State Fire Prevention Association in cooperation with the department. All papers featured the "Fifth Horseman—the unwelcome visitor, Fire!"

"Tomorrow's Firemen" Parade in Jackson Fire Prevention Contest
Riding "aparatus" built by themselves, boys up to 15 years of age competed for prizes during Jackson, Mich.'s Fire Prevention Week. Harold Crawford is Fire Chief.

Carbon Dioxide Protects Mammoth Fur Storage

The Boston Storage Warehouse, of Boston, Mass., which is the second largest fur storage warehouse in the United States, recently installed a carbon dioxide fire extinguishing system



CO_2 Smoke Detecting Cabinet Located at the Main Fire Station

with smoke and heat detecting equipment, as well as a microphonic sound detecting system and central station electrical supervision.

This is the first fur storage in New England to be protected against fire by a carbon dioxide installation.

The "Fortress," as the warehouse is often called, consists of ten separate, adjoining, brick and re-enforced concrete buildings, each seven stories in height.

The construction is massive. The base of the buildings is solid granite 52 inches thick, the roofs and floors are re-enforced concrete six inches thick, the outside walls are 12 to 32 inches thick and the fur storage vault walls are 24 to 32 inches thick.

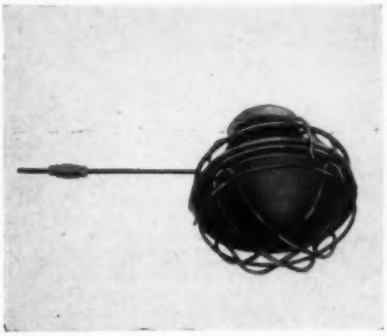
The storage facilities consist of 16 fur storage vaults, located in the basement and on the first, second and third floors; four cold storage vaults for use other than furs and 1,700 small general storage rooms, which make up the balance of the space.

Combination System Protects 16 Fur Vaults

The new combination smoke detecting, heat detecting and carbon dioxide fire extinguishing system protects the 16 fur storage vaults. It was designed and installed by C-O-Two Fire Equipment Co., of Newark, N. J.

The smoke detecting system automatically detects the first trace of smoke in any of the fur storage vaults and sounds an alarm at the main fire station of the storage warehouse as well as at the central station of the Automatic Fire Alarm Company. In most instances the threatened fur storage vault can be entered and the fire extinguished with portable fire extinguishers. If there is a fast burning fire, the heat detecting system automatically sets the carbon dioxide fire extinguishing system into operation, flooding the threatened fur storage vault with carbon dioxide gas.

Recent fire tests conducted by the Underwriters' Laboratories, Inc., ascertained the fact that an approved carbon dioxide fire extinguishing system, such as this installation, will give quick, positive and complete extinguishment of



One of the Rate-of-Rise Heat Detectors Located in the Fur Storage Vaults

deep-seated, smoldering internal fires as well as fast burning external fires in stored furs.

The following excerpts from the Laboratories on these tests indicate the effectiveness of carbon dioxide protection for fur storage vaults:

EXCERPTS
UNDERWRITERS' LABORATORIES, INC.
REPORT ON
CARBON DIOXIDE PROTECTION OF
FUR-STORAGE VAULTS

"One pound of carbon dioxide for each six cubic feet of space affords positive and complete extinguishment of fires external to the garments and deep-seated fires in tightly-packed garments. . . ."

"Early discovery of fires in fur vaults by means of smoke detection equipment and prompt extinguishment tends to minimize fire and smoke damage."

"Extreme temperature peaks are quickly reduced by the injection of the carbon dioxide."

"Carbon dioxide penetrates the interior of tightly packed coats and the gas concentration is essentially the same as in the exterior spaces."

"After exposure in the four fire tests (Nos. 1, 2, 3, and 4), the fur samples were removed and examined. A furrier stated that their condition was unchanged and that little, if any, odor was present. The samples were subjected to the usual fur-cleaning processes and were returned free of any trace of smoke odor."

"No condensate was found on equipment or garments in the vault."

"Carbon dioxide is dry and non-damaging regardless of the length of time that materials are exposed to this extinguishing medium."

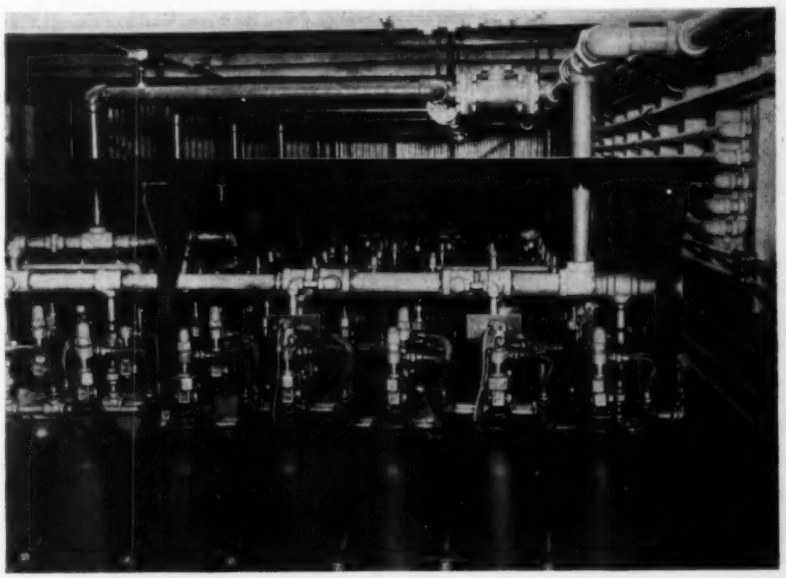
"No damage to any items of the equipment in the vault was observed."

"Visibility within the vault cleared rapidly after the discharge of carbon dioxide."

Burglar Alarm System

The A. D. T. microphonic sound detecting system consists of sensitive microphones or sound detectors in each of the 16 fur storage vaults. Electrical contacts are immediately effected by the first sound of an attack, which automatically sounds an alarm at the central station of the American District Telegraph Protection Service.

This burglar alarm system is effective in detecting various methods of attack; hammering, drilling, burning or explosion. It is super-sensitive to sounds originating within or upon the exterior of building structures. A sharp blow on any part of the fur storage vaults will cause an alarm to sound.



Part of the 262 100-Pound Size CO_2 Cylinders Used for Fire Extinguishing

Treated Wood Doors Stand Tests

A chemically treated wood door was recently tested under jurisdiction of New York City officials. Fire test was in accordance with ASTM Specifications with furnace temperature reaching 1800° F. It withstood this temperature for 90 minutes. It also withstood the impact and erosion of the required hose stream. The tests were interesting for several reasons.

1. A 2⅛" thickness of treated wood passed the 1½ hour fire test.

2. The temperature rise through the door was only 150° after 90 minutes!

3. The latch mechanism worked perfectly after the fire exposure.

The door showed no rise in transmitted temperature up to 45 minutes after the test started. Metal doors designed for similar fire resistance transmit an average of 650° F. Kalamein doors transmit 647° F. Most codes allow a rise of 650° F in 30 minutes.

San Diego Hase Novel Fire and Police Boat

Vandalism, particularly aboard many of the pleasure and fishing craft that lie in the San Diego, Calif., bay became so widespread and serious that City Manager Fred Rhodes and the City Council of San Diego ordered Chief George E. Courser to obtain a fast patrol boat and establish a 24-hour per day control service.

The new boat, recently put in service, has been named the "Chief Almgren," after retired Fire Chief Louis Almgren, who for 26 years guided the destinies of San Diego's fire fighting forces.

A steel hull cabin cruiser, the "Chief Almgren" is 26 feet long, with a beam of 9' 6", depth of 5' 6", draft of 30", and is powered by 2 Gray marine gasoline engines developing 116 h.p. each.

Police work, however, is not the sole function of the new craft, for it is equipped with much fire fighting equipment and will operate as an auxiliary to San Diego's regular fireboat, the "Bill Kettner." Principal fire fighting facilities include Bean high pressure pump, delivering 17 GPM at 600# pump pressure, and carbon dioxide tanks aggregating 150 pounds of CO-2 with hose and nozzles. Also carried are miscellaneous tools and equipment for rescue, patrol and fire fighting operations.

The boat is also equipped with a two-way short wave police and fire radio, and the crew consists of two men on each of three 8-hour watches. Crew members are regular firemen, most of whom are ex-lifeguards and they have been given police training and have authority as police officers.

Operating directly under the command of Chief Courser, the patrol boat has already had a number of runs, involving both police and fire duties, and boat owners and operators in San Diego harbor are highly pleased with the boat since it went into service.

Top: Crewmen of the "Chief Almgren" Demonstrate the Streams Available from the High Pressure Pumps of the Fire-Police Patrol Boat. Bottom: The "Chief Almgren" Under Way

In fire fighting operations, the principal advantages of the "Chief Almgren" are its speed and mobility which enables it to reach the scene of a harbor or waterfront fire and get to work on the blaze before the arrival of the slower and heavier "Bill Kettner." It is also expected that the patrol craft, because it is almost constantly on the move, will be in a position to discover and report fires, particularly at night, before they might otherwise be noticed.

Editor's Note: Unless the records prove us incorrect this is the first combination fire and police craft to be reported. The idea of light, fast craft equipped to perform fire duty is not new. But a boat that will do this—and serve also for police duty—yet be manned and operated by the fire department is new.

Cleveland Fire Ruling May Be Far-Reaching

A verdict returned by a Cleveland, Ohio, jury on overtime pay for firemen may have far-reaching repercussions, it is believed by many who have studied the case.

The verdict followed a trial over a suit brought by Fire Lieutenant James E. Taylor, of the Cleveland Fire Department, for overtime compensation. He won an award of $3,688.96 in a decision signed by ten of the twelve jurors who had deliberated nearly two full days in Common Pleas Court. The award, which shocked Cleveland's City Hall, was for claimed overtime from Sept. 23, 1943 to Nov. 15, 1946. It is also possible for Taylor and other firemen, to sue for claimed overtime in the two years since the filing of the original suit.

Six hundred and eighty cases similar to the one won by Taylor are pending in Common Pleas Court; it is believed 300 more firemen may be eligible to sue. One thousand cases at an average of $3,000 per case would mean $3 million for the three-year period. Two years additional would bring the sum to well over $5 million.

Mayor Thomas A. Burke, informed of the Taylor decision, ordered the city's law department to seek an appeal hearing as soon as possible. He asserted that if the decision were upheld in the higher courts, the city's present tax structure would be insufficient to meet the burden. "One administrative problem which rises immediately," the mayor said, "is whether or not to place firemen at once on a 48-hour week. With the expectation and hope that our appeal will be heard within the next three or four months, I am deciding to maintain the status quo, which means a 72-hour week and permission for firemen to sleep at the firehouses."

Burke asserted that in wage and working conditions with firemen in recent years the firemen had indicated they did not want a 48-hour week and no beds, but rather something like a 56-hour week and permission to sleep on duty.

"Unfortunately," he continued, in this case the trial judge ruled that a 48-hour week was self-executing or mandatory as a result of the city's charter provision. If he is upheld, thus will not only mean an increased annual operating expense of well over $1,000,000 a year, but will force on the firemen a work week they do not want."

If Trial Judge Nichols, before whom the case was heard, is upheld, the mayor

Spokane's Talking Fire Alarm Box

added, the city will have to decide whether to cut other city services or fire fighting and will also have to face a serious tax problem.

According to the mayor, the argument boiled down to one thing: whether, as the city contended, the state law controlled and a 72-hour week was permitted, or whether, as the firemen argued, the city charter controlled and a 48-hour week was mandatory.

Judge Nichols, ruling on a motion, held that under an ordinance passed Sept. 23, 1943, the firemen were entitled to overtime pay for work in excess of 48 hours. What was left for the jury to decide was whether Taylor, the plaintiff, actually worked more than 48 hours weekly for 50 weeks a year, and if so, how much overtime he worked.

Counsel for the firemen were Attorneys William J. Corrigan and two office associates, Timothy F. McMahon and Charles I. Russo. For the city were Assistant Law Directors, Charles W. White and James M. McSweeney. The trial lasted ten days including deliberation. It is said by a Cleveland paper that Corrigan and his two associates were engaged by Taylor and his associates who have sued the city, on a contingency basis.

If the verdict is upheld, it is said, some of the largest fees in court history may be made by attorneys who represented Taylor.

Alarm Box Goes Vocal

Sharply at 1:30 P.M., on a day during last Fire Prevention Week, in Spokane, Wash., fire alarm box 26 became the first fire alarm box in history to talk. Fire Chief James T. Blamey says "no other alarm box can make that statement!" He ought to know! He was one of those to whom the little red box "shot its works" verbally, that is.

All afternoon the box talked, at the corner of Sprague and Lincoln in the busy section of the city, to the consternation and amazement of passersby. It still was ready for duty like its prototypes scattered throughout town. The only difference between it and the rest was—it talked! Fire Chief Blamey himself was among the startled! He was walking past the box, when he heard: "Hey Chief! This is your litle fire alarm box. For 30 years I've been on this corner, and I've kept my mouth shut, but how I've gotta chance to talk back!"

The puzzled chief stopped, looked and listened. Then he opened up the box and inspected its insides. He closed the door and scratched his head. "What's coming next in the fire service?" he thought. All during the inspection the box gave forth with voluminous verbiage.

Congressman Horan was another whom the little box stopped in his tracks. Throughout the afternoon the box continued to call passersby by name, describe their clothing, repeating over and over again the facts about fire prevention week. In between "commercials" it got in wisecracks, as when it talked to the young slicker who leaned against the box, cigarette dangling from his mouth. "Hey," cried the box, in agony, "don't lean on me!" The slicker slunk swiftly away!

Credit for the talking fire alarm box is due to Captain Roy McDirmid, safety inspection of the fire department. Under his tutelege, it sounded off all doing Fire Prevention Week, in a voice that closely resembled that of Fireman Jimmy Bell. Brother Bell, it seems, was parked upstairs in the State Theatre, whence he could look down on old No. 26 and see all that went on, and off, and tune his talk accordingly.

Volunteer Fireman Dies Answering False Alarm

Phillip Fornair, 34, tillerman on the Valley Stream Volunteer Fire Department's ladder truck, Valley Stream 29, New York, was found dead at his wheel about 11:00 A.M. Sept. 19th, after the truck had run into a parked car in making a turn, while answering a false alarm of fire.

The rear wheels, which Fornair steered, failed to straighten out after making a turn at Valley Stream Boulevard and North Corona Avenue. As the truck crashed into the car, six other firemen on the apparatus jumped, but the tillerman was slumped over his wheel. Efforts to revive the victim were unsuccessful.

The seven firemen had been in the street near their quarters selling tickets to an entertainment when the alarm sounded.

Demonstrating How to "Dunk Out" a Fire!

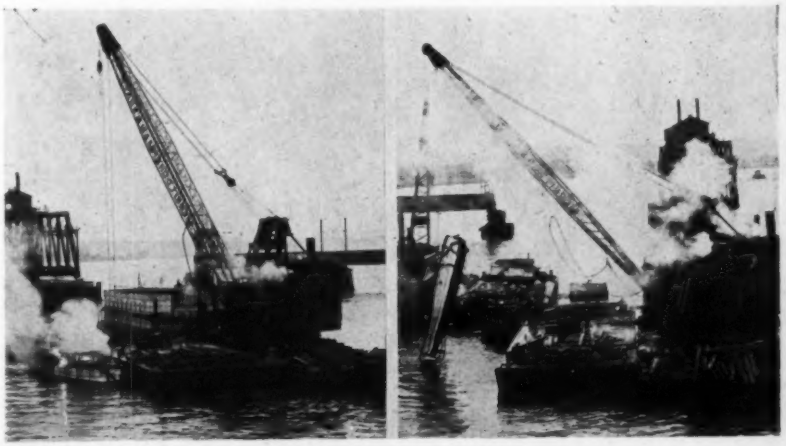
There are many ways of extinguishing fires but a new technique was disclosed Nov. 22, when the "Katy," 36-foot launch used by the Merritt Chapman and Scott Construction Co. to transport workmen and material on a Potomac River bridge job, took fire.

The "Katy" had been placed in temporary drydock for repairs and was resting on a barge in the middle of the River, adjacent to a pier of the new highway bridge when she took fire. Workmen had finished their job and were filling her gas tanks when the fire started.

A nearby tug pumped water on the burning "Katy" but with little result. Then crane operator Sam Putnam swung into action with his huge crane which at the time was hooked onto the "Katie" preparatory to swinging her back into the water.

Sam simply pulled some levers: "Katy" sailed into the air, and Sam swung her out over the water, and dunked her bow first into the drink. The fire went out!

IRVING JOHNSON



Left: The Launch "Katy" Before Dunking. Right: The Launch "Katy" After Dunking

Fire Spreads Through Vertical Openings

A fire in the early morning hours of August 1st severely damaged the Western Auto Supply Company, 2610 Market Street, Youngstown, Ohio, and threatened neighboring structures in Youngstown's uptown shopping district, causing a loss estimated at $130,000.

The fire of undetermined origin was discovered in the 45 by 150 foot long, one-story brick building at 1:27 A.M. by a passing Western Auto employee, who pulled box 5224, Market and Indianola. Firemen, led by Battalion Chief Carl Saviers, found two separate fires in the basement storeroom of the recently remodeled building, involving tires, paints and other inflammable liquids common to auto supply stores. Firemen equipped with "Air Paks" stretched lines into the blind basement in an attempt to hold the rapidly spreading fire. Squad Company Number 1 was sent to the fire by special call at 1:40 A.M. with additional "Air Paks" and portable lighting equipment.

Intense heat and smoke forced firemen to back up the only stairway and necessitated the use of cellar pipes. High stock piles, however, partitioned off the basement and prevented the penetration of the streams. Fire spreading through unprotected vertical openings around steam pipes ignited a pile of used tires at the head of the stairs on the main floor and communicated to a false ceiling, used as a storage place for office papers, and to the roof beyond. Firemen fought this extension from neighboring roofs, at the same time operating an 85-foot steel aerial ladder as a water tower.

Engine 4 was called at 2:45 A.M. as the roof and floors began to collapse, sending sheets of flame into the air and endangering a brick and frame apartment to the north and windward. Several families were evacuated but firemen prevented a communication of the fire to this structure. To the south a four-foot thick solid wall blocked smoke and flames from the new two-story appliance store of the Strauss-Hirshberg Co.

Fire Chief Leroy Halsted and Assistant Chief Frank Quinn responded when notified of the extent of the fire, which attracted crowds of night clubbers and neighbors. Low hanging clouds of smoke caused some anxiety among nearby residents who awoke at the sound of fire apparatus to find their homes filled with smoke.

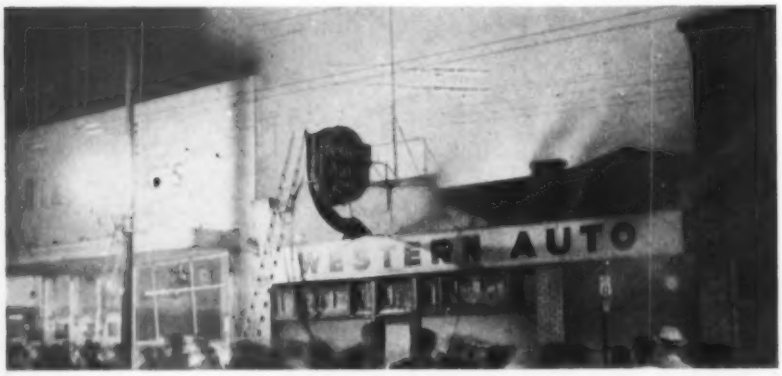
At 3:15 A.M. Engine 3 was called to furnish a relief for the men manning the seven lines in operation. No serious injuries were reported although the fire was not brought under control until 8:30 A.M. However, several firemen, including Battalion Chief Carl Saviers, were treated for smoke exposure.

Chronology of alarms:

1:27 A.M. Box 5224, Market and Indianola Ave. Engines 8, 9, 13; Truck 4.
1:40 A.M. Special Call. Squad 1.
2:45 A.M. Special Call. Engine 4.
3:14 A.M. Special Call. Engine 3.

Chiefs in attendance: Fire Chief Leroy Halsted; Assistant Chief Frank Quinn; Battalion Chief Carl Saviers.

FRED M. HUS



Market Street View of Western Auto Store Fire at Its Height. Companies Have Lines Operating Into Store Front and from Strouss-Hirschberg's Roof at Left of Picture

Firemen Advancing Lines Into the Front of the Western Auto Supply Co., Youngstown, as They Prepare to Battle a Fire Which Did an Estimated $130,000 Damage

Pension Fund Tax Disallowed

A lower court decision ruling a one-mill tax levy for the Spartanburg, S. C. Firemen's Pension Fund unconstitutional was upheld by the South Carolina Supreme Court in Columbia on Tuesday, December 7.

The decision was in the case of W. F. Shillitto, a taxpayer, against the City of Spartanburg.

Shillito claimed that the tax, levied under a 1946 act of the General Assembly, was illegal. He sued to recover $6.28, the amount levied against his property, and the courts ordered the refund.

The act is unconstitutional, the Supreme Court opinion said, because a special law may not apply where a general one is applicable.

"By its restrictive terms," the opinion said, "it (the act) applies only to the City of Spartanburg among all the municipalities in the state. No effort at classification is made. . . .

"A general law of the state . . . creates a fireman's pension fund in all cities in the class including Spartanburg. . . ."

D. G. SPENCER

Casualties from Fire

The Metropolitan Life Insurance Company has recently released a comprehensive analysis of the mortality among the Company's Industrial policyholders entitled "Health Progress, 1936 to 1945" which contains certain data on casualties from fire pertinent to the fire service.

It is disclosed that burns and scalds ranked fourth in importance as a means of accidental death among Metropolitan Industrial policyholders in the years 1936-1945, being surpassed only by deaths from automobile accidents, falls and drowning.*

The 4,030 deaths charged to this cause were 4.8 per cent of all fatal accidents; the standardized annual death rates for the decade averaged 2.5 per 100,000 policyholders at ages 1-74 years.

The mortality from burns was characterized by a general downward trend in the decade under study, as it had been in the preceding 25 years. The death rate dropped nearly one-third between 1931-1935 and 1941-1945, the decline being much more rapid in the first half of the decade than in the second. In fact, during the war period there were marked increases in mortality among white men in the entire range of military ages and among colored males at 15-24 (see Table 1).

White policyholders experienced a greater improvement than the colored in the first quinquennium, but in the war period the situation was reversed. For the decade as a whole, the trend was more favorable for females than for males, thus effecting a distinct

*Burns and scalds due to land and air transportation vehicles, machinery, mining and quarrying accidents, and those caused by electricity and lightning are not classified under this heading.

TABLE I—BURNS (CONFLAGRATION EXCEPTED)
Five-Year Averages of Annual Death Rates per 100,000
By Color, Sex and Age. Ages 1-74 Years
Metropolitan Life Insurance Company, Industrial Dept., 1931-1945

AGE PERIOD YEARS	WHITE MALE 1941-1945	WHITE MALE 1936-1940	WHITE MALE 1931-1935	WHITE FEMALE 1941-1945	WHITE FEMALE 1936-1940	WHITE FEMALE 1931-1935	COLORED MALE 1941-1945	COLORED MALE 1936-1940	COLORED MALE 1931-1935	COLORED FEMALE 1941-1945	COLORED FEMALE 1936-1940	COLORED FEMALE 1931-1935
1-74*..	2.6	2.4	3.1	1.8	2.2	3.3	4.0	4.9	5.3	4.3	5.7	7.1
1- 4..	6.7	7.5	11.7	7.7	8.3	13.9	10.4	12.5	16.1	12.8	14.3	22.6
5- 9..	1.5	1.1	1.9	2.3	3.0	4.3	1.5	2.8	2.9	4.9	8.3	10.3
10-14..	.6	.7	1.0	.7	.6	1.0	.7	1.4	.5	1.0	2.8	3.6
15-19..	1.3	.9	1.1	.4	.3	.6	2.4	1.8	.6	1.7	2.0	1.3
20-24..	1.7	1.4	1.5	.6	.8	1.3	3.5	1.6	2.8	2.0	.9	1.4
25-34..	2.4	1.8	2.1	.6	.9	1.1	1.9	3.1	4.1	1.5	1.6	2.7
35-44..	2.7	1.8	2.6	.8	1.2	1.6	3.4	4.0	3.1	2.0	2.5	3.0
45-54..	2.5	2.3	2.9	1.4	1.5	2.4	4.7	5.8	5.6	2.8	4.4	7.5
55-64..	3.2	3.9	4.0	2.1	3.6	4.8	5.3	10.5	8.5	7.8	10.5	13.4
65-74..	7.8	8.0	7.7	5.7	7.8	10.4	19.0	19.7	28.3	23.6	34.1	24.8

*Standardized for age.

TABLE II—CONFLAGRATION
Five-Year Averages of Annual Death Rates per 100,000
By Color, Sex and Age. Ages 1-74 Years
Metropolitan Life Insurance Company, Industrial Dept., 1931-1945

AGE PERIOD YEARS	WHITE MALE 1941-1945	WHITE MALE 1936-1940	WHITE MALE 1931-1935	WHITE FEMALE 1941-1945	WHITE FEMALE 1936-1940	WHITE FEMALE 1931-1935	COLORED MALE 1941-1945	COLORED MALE 1936-1940	COLORED MALE 1931-1935	COLORED FEMALE 1941-1945	COLORED FEMALE 1936-1940	COLORED FEMALE 1931-1935
1-74*..	1.6	1.2	1.2	1.1	0.6	0.6	3.7	3.4	2.2	2.8	2.4	1.5
1- 4..	3.8	1.7	1.3	3.6	1.0	1.2	11.7	11.5	2.0	10.6	9.1	3.2
5- 9..	1.3	.7	.8	1.2	.9	.6	1.8	2.9	2.4	4.2	2.5	1.8
10-14..	.6	.5	.4	.4	.4	.3	1.0	.9	.5	.8	.5	.7
15-19..	.5	.5	.5	.4	.2	.3	1.7	.7	.3	1.1	1.8	1.0
20-24..	1.0	.7	.7	.7	.3	.4	.7	1.6	1.9	1.0	.7	1.0
25-34..	1.3	.8	1.2	.9	.4	.4	2.4	3.0	2.3	1.5	1.4	1.1
35-44..	1.5	1.6	1.7	.9	.4	.3	2.8	1.7	2.5	1.9	.8	1.4
45-54—	2.4	1.6	2.1	.7	.4	.7	2.6	3.4	2.3	1.2	1.4	1.3
55-64..	2.4	2.3	2.0	.8	.6	.7	6.6	6.5	4.6	3.1	2.5	2.1
65-74..	2.0	3.4	2.9	1.8	1.4	2.4	18.6	7.4	8.1	8.3	9.1	4.1

*Standardized for age.

change in the sex-ratio of the mortality. Among white persons burns lost the distinction of being the one type of major accidental injury with a higher death rate for females than for males, the death rate among white females in the past decade falling below that among white males. Among the colored, however, females continued to have the higher rate. The very young and the old are the chief victims of burns. It is encouraging, therefore, that reductions were achieved in the mortality of these periods of life, and more particularly at the preschool ages.

Conflagration*

A total of 1,964 Metropolitan Industrial policyholders were fatally burned, trampled to death, suffocated, or otherwise mortally injured in conflagrations in the years 1936-1945. The average of the standardized annual death rates at ages 1-74 years was 1.2 per 100,000.

No definite trend in the mortality from conflagrations is discernible in this insurance experience, which, including the decade under survey, covers a 35-year period. The annual death rates fluctuate around the level of one death per 100,000, with sharp rises being recorded in years in which major catastrophes occur. For the period 1936-1940, the death rate was about average, but in the following quinquennium the rate rose to 1.5 per 100,000, the highest for any five-year period in the entire series.

*Under this title are included deaths resulting from burning buildings and from prairie and forest fires. Deaths from conflagration on ships, in burning automobiles, airplanes, and other vehicles, and deaths from mine fires and explosions are allocated to other titles. (Editor's note: The Metropolitan Life Insurance Company evidently does not employ the term "conflagration" in the same sense that it is employed in the fire service.)

The unfavorable experience in the more recent years was due, in part, to the considerable loss of life among policyholders in each of several large fires. These included the Boston night club fire in November 1942, the circus fire in Hartford in July 1944 and the gas tank explosion and fire in Cleveland in October 1944. But even in these years the bulk of the deaths from conflagration resulted from fires in private dwellings, apartment houses, tenements and rooming houses.

A rise in the death rate for the years 1941-1945 over 1936-1940 is observed in each color-sex group, but the increase was somewhat more pronounced among white than among colored policyholders, and was greater for females than for males (see Table II). Among white policyholders the increases were particularly sharp for younger children. For example, at ages 1-4, the death rate per 100,000 increased from 1.0 to 3.6 among girls, and from 1.6 to 3.8 among boys. As a result, the death rate at these pre-school ages was higher than that for any other age group in period 1941-1945, whereas in earlier years the highest mortality from conflagrations occurred at ages 65-74 years. Some of the increase in mortality among children resulted from the loss of life in the circus fire and in other catastrophes, but much of it apparently is a consequence of the fact that in the war period many children were without adequate supervision in the home.

Gas in Fuel Oil Tank Explodes

Three violent explosions punctuated a fire which caused a two-alarm blaze that did $10,000 damage to the New England Concrete Pipe Corporation, Newton Upper Falls, Mass., recently.

Fire Chief John L. Keating of Newton, Mass., said the spectacular blaze was touched off when a gasoline truck driver poured gasoline into a fuel oil tank by mistake. The gasoline ran out of the unused tank and the fumes ignited from an automatic furnace stoker.

Seven employes in the building, which houses the company offices and garage, fled at the first explosion, one being slightly injured by flying glass. Subsequent explosions, which took place after fire fighters arrived, injured one employee and a fireman, Joseph Lacroix, 31, of Engine 3, Newton.

The truck driver, George Fitzgerald, was knocked down by the first blast but was uninjured and managed to shut off the flow of gas, breaking the connecting hose as he drove his truck from the scene. Fitzgerald said he had already put gas in a storage tank in the factory section of the building when he was asked to add fuel in a storage tank in the office and garage section. He said a workman told him which one to connect to and he started pouring gas into this container. Company officials said the gas was intended for another tank in the cellar.

Apparatus from Needham, Waltham, Watertown and Wellsley was called to help fight the flames which burst from the cellar after the first explosion.

Optimistic Civilian Fire Fighter Tackling Two-Alarm Garage Fire

ASSOCIATE MEMBERS PRESENT AT THE I. A. F. C. CONFERENCE IN MIAMI, FLA., NOV. 9-12

Alabama
W. M. Boudurant, Fire Marshal, Birmingham
L. P. Harless, L. P. Harless Co., Birmingham
Joseph Roubicek, Birmingham
R. H. Ryan, Eureka Fire Hose Div., U. S. Rubber Co., Tuscaloosa

California
H. E. Albro, American Fire Equip. Co., San Francisco
C. W. Bahme, Captain, Dangerous Chemicals Div., Los Angeles
Harold H. Jones, Supt. of Shops, San Francisco
Allen Matlock, San Francisco
Robert H. Schaefer, San Francisco

Colorado
L. L. Bell, Western Fire Dept. Supply Co., Denver

Connecticut
Francis J. Allen, National Board of Fire Underwriters, Hartford
Mrs. Edna N. Meaney, Leon R. Meaney Co., Greenwich

District of Columbia
A. H. Benson, Washington
F. A. Biondi, Washington
J. B. Bodley, Washington
Nelson E. Bowen, Batt. Chief, Washington
John P. Redmond, I. A. F. F., Washington
George J. Richardson, I. A. F. F., Washington
Raymond C. Roberts, Sr. Dep. Chief, Washington

Florida
Guy Armbell, Orlando
R. S. Bair, Belle Glade
Cecil Bate, Miami
James P. Britton, Coordinator, Fla. State Fire College, Tampa
A. L. Buzzell, Dist. Chief, Miami
H. W. Collard, Jacksonville
John L. Daniels, Dist. Chief, Miami
Charles V. Doolittle, Jacksonville
W. Q. Dowling, Jr., The Seagrave Corp., Jacksonville
James P. Fleming, Miami Beach
Rubye Gillooly, Southeast Engng. Co., Jacksonville
B. F. Harris, Lake City
H. F. Hinton, Tallahassee
J. Roy Larrabee, Asst. Chief, West Palm Beach
C. E. Lee, Daytona Beach
Nathan Levin, Miami Beach
V. K. O'Meara, Miami
W. Ray Willis, Jacksonville
Floyd F. Reid, Coral Gables
H. J. Richardson, Gainesville
Arthur Speer, Captain, Miami Beach
Charles Wheeler, Miami
Newton L. Wheeler, Dist. Chief, Miami
Arthur J. White, Jenson Beach
J. H. Witherspoon, Asst. Chief, West Palm Beach

Georgia
J. O. Eaves, American-LaFrance-Foamite Corp., Atlanta
J. H. Hancock, Eureka Fire Hose Div., U. S. Rubber Co., Atlanta
James W. Hodges, Lyons
Harry Jeffcoat, Augusta
G. E. Kohn, Fulton Bag & Cotton Mills, Atlanta
J. S. McGhee, The Gamewell Co., Atlanta
W. M. Morgan, Atlanta
W. E. Morris, Atlanta
P. V. Netherland, Asst. Chief, Atlanta
Roy T. Rogers, Atlanta
Leonard G. Styron, Atlanta
Roy S. Timmerman, Peter Pirsch & Sons Co., Atlanta
A. W. Wren, Augusta Arsenal, Augusta

Illinois
Robert Baird, Bi-Lateral Fire Hose Co., Chicago
Horace Boylan, Chicago
Michael J. Corrigan, Fire Commissioner, Chicago
Fred Fiscel, Bi-Lateral Fire Hose Co., Chicago
James Flynn, Potter Manufacturing Co., Chicago
John J. Flynn, Potter Manufacturing Co., Chicago
Abe Gent, Illinois Inspection Bureau, Chicago
William Hamilton, Fire Insurance Patrols, Chicago
Martin J. Hass, Chicago
Dr. John B. Jack, Chicago
Louis Lehr, Seagrave Corp., Chicago
Keely S. MacKennon, Chicago
W. B. Moore, Mack Manufacturing Co., Chicago
Elmer Reske, Cook County Inspection Bureau, Chicago
Felix Rodgers, Cardox Corp., Chicago
J. J. Ross, Chicago
James Rustic, American District Telegraph Co., Chicago
Ralph Shields, General Fire Inspector, Chicago, Milwaukee & St. Paul R. R., Chicago
Frank F. Stover, Gamewell Co., Chicago
Dr. Harold P. Sullivan, Medical Officer, Chicago
E. C. Watson, American-LaFrance-Foamite Corp., Chicago

Indiana
Al Casse, American-LaFrance-Foamite Corp., Indianapolis
Fred S. Fosler, Indianapolis
Herbert Foster, Fort Wayne
W. H. Glazebrook, Fabric Fire Hose Co., Indianapolis
William M. Grady, Indianapolis
E. H. Hansen, Elkhart Brass Mfg. Co., Elkhart
Frank L. Orr, Indiana Fire Chiefs Assn., Terre Haute
J. F. Smith, Gary
Richard Voelkert, Elkhart Brass Mfg. Co., Elkhart

Kansas
Ray Fundenberger, Eureka Fire Hose Div., U. S. Rubber Co., Hutchinson

Louisiana
Edward J. O'Brien, New Orleans
J. A. Robinson, Mack Mfg. Co., New Orleans

Maine
William Rocheleau, Asst. Chief, Westbrook

Maryland
C. R. Harvey, Baltimore
Kayton Moses, Baltimore

Massachusetts
Fred B. Alger, Seagrave Corp., Middleboro
R. A. Bird, Rockwood Sprinkler Co., Worcester
Percy Bugbee, National Fire Protection Assn., Boston
Charles H. Clougherty, Jamaica Plains
Rev. Michael F. Collins, Chaplain, N.E.A.F.C., Marblehead
Otto M. Dreikorn, Fire Commissioner, Holyoke
Edwin T. Gibson, Captain, West Bridgewater
Joseph T. Gorham, Gorham Fire Equip Co., Boston
Fred W. Graham, Dep. Chief, Naval Ammunition Depot, Stoughton
Charles L. Gravelle, American Fire Equip Co., Boston
J. L. Keefe, Rockwood Sprinkler Co., Worcester
Gordon Litchfield, American-LaFrance-Foamite Corp., Boston
Alfred Mack, Alpurite, Needham Heights
Edward J. McCarthy, The Gamewell Co., Newton
Justin A. McCarthy, Justin A. McCarthy Co., Bridgewater
Edward J. O'Neill, Rep. Peter Pirsch & Sons Co. & Blanchard Asso., Roslindale
George H. Pettengill, Milton
F. B. Philbrick, The Gamewell Co., Newton
James J. Ryan, Rockwood Sprinkler Co., Worcester
John F. Scully, American Fire Equipment Co., Boston
Charles Smith, The Gamewell Co., Newton

Michigan
Roy M. Beyer, Captain, Saginaw
Joseph F. Chak, Fire Comm., Muskegon Township, Muskegon
Grace C. Clark, Circul-Air Corp.
A. J. Gilleo, Eureka Fire Hose Div., U. S. Rubber Co., Detroit
A. W. Henrion, Chief of Appar. & High Pressure, Detroit
C. T. McGraw, Circul Air Corp., Grosse Pointe
W. J. Meengs, Holland
Joseph Platte, Grand Rapids
R. G. Pulver, John Bean Mfg. Co., Div. of Food Machinery Co., Lansing
W. A. Riedel, American District Telegraph Co., Detroit
William E. Storey, American-Marsh Pumps, Inc., Battle Creek

Minnesota
Ralph W. Carney, St. Paul
Leonard C. Lund, Dep. State Fire Marshal, St. Paul
William A. Milner, St. Paul

Mississippi
C. H. Whitaker, State Fire Dept. Instructor, Jackson

Missouri
Edward S. Dolan, St. Louis Sponge Co., St. Louis
Glenn T. Scott, American-LaFrance-Foamite Corp., Kansas City
H. W. Voight, Box 8 Club, St. Louis
Francis Wornall, Fire Commissioner, Kansas City

New Hampshire
P. N. Putney, Manchester

New Jersey
Joseph Barnatto, Atlantic City
James A. Burns, Batt. Chief, Newark
Ernest N. Day, New Jersey Fire Equip. Co., Dunellen
Herbert Dougherty, Florham Park
F. Roy Engel, Fire Commissioner, Elizabeth
Frank R. Fricke, Fire Commissioner, Elizabeth
Howard Y. Griffeth, Asst. Chief, Haddonfield
Theodore W. Hughes, Asst. Chief, Burlington
John P. Keenan, Fire Commissioner, Newark
M. A. Laswell, C-O-Two Co., Newark
J. P. Maloney, Pyrene Manufacturing Co., Newark
J. McFarland, Fire Commissioner, Kearny
M. C. Murphy, Kearny
K. B. Ridley, Teaneck
Harry J. Sommers, Newark
W. H. Stephenson, Stephenson Corp., Red Bank
Robert W. Sweatt, Orange
E. L. Sweet, American-LaFrance-Foamite Corp., Bloomfield
Charles J. Wilderotter, Newark

New York
Fred W. Beardsley, Mack Manufacturing Co., Long Island City
J. O. Binford, American-LaFrance-Foamite Corp., Elmira
Mathew M. Braidech, National Board of Fire Underwriters, New York
Thomas M. Burton, D. B. Smith Co., Utica
T. H. Coates, Dep. Chief, Rochester
C. Doose, American District Telegraph Co., New York
W. G. Eckman, Scott Aviation Corp., Lancaster
J. H. Green, Eureka Fire Hose Div., U. S. Rubber Co., New York
Hugh A. Halligan, Dep. Chief, New York
James E. Jagger, General Manager, I. A. F. C., New York
Calvin G. Lauber, National Board of Fire Underwriters, New York
George A. Leo, Supt. of Fire Appar., Buffalo
John F. Martin, Asst. Chief, Jamestown
William B. Marx, Asst. Chief, Middletown
George J. Meade, New York
David J. McCann, New York
Hugh McNair, Carbide & Carbon Chemicals Corp., New York
Arthur Myers, Atlas Safety Equip. Co., New York
Ralph Ness, Batt. Chief, New York
E. E. O'Neill, American-LaFrance-Foamite Corp., Elmira
Albert D. Pipitone, Asst. Fire Marshal, Pa. R. R., Lynbrook
Maurice V. Powers, Asst. Chief, Yonkers
William S. Riordan, Chief Dispatcher, New York
Emil A. Rothermel, New York
Albert R. Schuman, New York
H. J. Segrave, Mine Safety Appliances Co., New York

Chief Edward Wischer, Milwaukee, Wis.

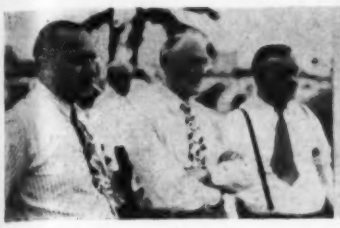
Fire Marshall William J. Scott, Toronto, Ont.

Chief D. W. Brosnan, Albany, Ga.

Chief A. C. Jaques, New Brunswick, N. J., and Chief T. J. Phelan, Trenton, N. J.

Chief H. L. Dey, New Orleans, Host for 1949 Convention and Chief Edward P. Walsh, San Francisco, Cal.

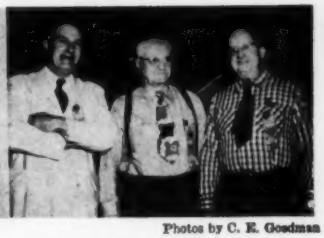
Photos by C. E. Goodman



Dep. Chief Louis Vogt, Dep. Chief Thomas Coates and Chief J. A. Slattery, all of Rochester, N. Y.

Mr. and Mrs. Tom Flynn, Eureka Fire Hose Div., U. S. Rubber Co., Nashville, Tenn., and Mrs. C. E. Goodman, wife of the representative of the Peter Pirsch & Sons Co.

Chief John F. Finnegan and Supt. of Apparatus T. L. Sharp, both of Richmond, Va.



Chief Frank C. McAuliffe, Pres., I. A. F. C.; Fire Commissioner M. J. Corrigan and Dr. H. P. Sullivan, all of Chicago, Ill.

Photos by C. E. Goodman

A. Earl Smith, Chief Insp., Port Fire Marshal's Office, N. Y. P. O. E., New York
William A. Speck, Poughkeepsie
A. W. Sullivan, New York
Herendon Thaden, New York
John J. T. Waldron, Asst. Chief, New York
Hubert Walker, American - La - France-Foamite Corp., Elmira
King Young, American District Telegraph Co., New York
Robert A. Young, New York

North Carolina

J. W. Barnes, Fayetteville
Kenlon H. Brockwell, Mack Manufacturing Co., Charlotte
A. Y. Cottrell, Lenoir
F. G. Garrard, Asst. Chief, Greensboro
G. T. Merrill, Cherry Point
Jerry Silverman, Silverman Co., Asheville
D. C. Wipper, Bi-Lateral Fire Hose Co., Raleigh

Ohio

Emmet H. Byrne, Batt. Chief, Cleveland
Carl F. Ehrler, Cleveland
William Ferrie, Batt. Chief, Cleveland
Robert Finch, Trilby
Floyd J. Lee, Akron Brass Mfg. Co., Wooster
W. J. Lundell, Akron Brass Mfg. Co., Wooster
C. H. Penman, Quaker Rubber Corp., Cleveland
Kenneth E. Rearick, Wooster Brass Co., Wooster
Roy E. Ricker, Youngstown
C. M. Scholz, Akron
Lester Stevenson, Seagrave Corp., Columbus

Pennsylvania

Joseph M. Clarke, Batt. Chief, Philadelphia
Robert F. Daley, McKees Rocks
J. B. Davies, Mine Safety Appliances Co., Pittsburgh
Tom J. Davies, Uniontown
Art Espey, Cardox Corp., Philadelphia
John Ferguson, Asst. Chief, Havertown
George E. Hink, Batt. Chief, Philadelphia
Franklin E. James, Allentown
Henry M. Kincey, Batt. Chief, Philadelphia
Fred Kutzer, Capt., Philadelphia Navy Yd., Philadelphia
H. O. Meier, Quaker City Rubber Corp., Philadelphia
George L. Morse, Pittsburgh
John G. Norman, Captain, Havertown
Donald L. Roberts, Asst. Chief, Trevose
Frank A. Rowe, Ex-Batt. Chief, Philadelphia
George L. Seth, Mine Safety Appliances Co., Pittsburgh
Nelson H. Wonsettler, Norristown
Frank J. Young, Capt., Philadelphia

Rhode Island

Andrew P. Palmer, Press Rep., N. E. Assn. of F. Chiefs, Woonsocket

South Carolina

Thomas O. Stewart, Seagrave Corp., Newberry

Tennessee

Dan Corcoran, Capt., Knoxville
Tom Flynn, Eureka Fire Hose Div., U. S. Rubber Co., Nashville
John W. Hughey, Oak Ridge
James J. McCarthy, Oak Ridge
E. J. Moore, Knoxville
B. F. Popejoy, Knoxville
Richard M. Smith, Oak Ridge
J. K. Vaughn, Nashville
A. R. Wright, Knoxville

Texas

George C. Hawley, Engr., Texas Inspection Bureau, Austin
A. B. Busbey, American-LaFrance-Foamite Corp., Dallas
Richard G. Joyner, Eureka Fire Hose Div., U. S. Rubber Co., Dallas
C. R. Raynes, Seagrave Corp., Dallas

Utah

Kelvin W. Aylett, Midvale

Vermont

Harry H. Hartwell, Bellows Falls

Virginia

Charles E. Baker, Roanoke
Francis S. Brigham, Oren-Roanoke Corp., Roanoke
C. L. Hill, Phoebus
G. A. Mutter, Portsmouth
T. L. Sharp, Supt. Automotive Maintenance, Richmond
R. F. Snow, Capt., Phoebus

Washington

Joseph R. Cook, Capt., Seattle

West Virginia

M. M. Arthur, Charleston
Vivian W. Bush, Powhatan Brass Co., Ranson
Dr. F. H. Carroll, Civil Service Comm., Wheeling
C. F. Reininger, Powhatan Brass Co., Ranson

Wisconsin

Walter M. Anderson, Milwaukee
C. E. Goodman, Peter Pirsch & Sons Co., Kenosha
Louis Hoeft, Asst. Chief, Milwaukee
Harry F. Johnston, Dep. Chief, Milwaukee
Frank Lukitsch, Milwaukee
G. A. Rogers, Four Wheel Drive Auto Co., Clintonville
N. F. Van Corp., Bi-Lateral Fire Hose Co., Milwaukee
John Wenzler, Milwaukee

Canada

James L. Arnott, Wilson & Cousins Ltd., Toronto
Major E. Desjardins, Ottawa
Samuel G. Hill, Toronto
Paul LeFebre, Fire Commissioner's Office, Quebec
C. C. Rollins, Bickle-Seagrave Corp., Woodstock
Lt. Commander W. J. Simpkin, Ottawa
Alber Steen, Toronto
R. E. Tiffin, Dep. Fire Commissioner, Regina

Change in Connecticut Training Program

A change in the supervision of the Fireman Training Program, operating in Connecticut under the State Department of Education is announced by L. W. Eddy, Assistant Director, Vocational Training Field Service. The program is now a part of the Vocational Training Field Service, 354 Bellevue Street, Hartford 5, Conn.

The training program includes local and regional courses in fireman training given throughout the year, and the annual Fire College held each summer.

Inquiries should be addressed to Mr. Roy W. Adams, Director, Vocational Training Field Service, or Chief John J. Pachl, Chairman, Fireman Training, at the above address.

Dry Ice Used on Silo Fire

A light wisp of smoke drifted from the open top of a 40-foot farm silo three miles west of the Aubrey community in Johnson County, Mo., and about thirty miles southwest of Kansas City.

Don Shippy, who lives on the farm, took a look and telephoned the farm owner, Robert R. Lester, president of the Kansas City Terminal Warehouse Company in Kansas City. The chopped alfalfa in the big round tile cylinder was afire Lester's employe reported. How do you handle a fire like that? Pour water on it?

The farm owner advised him that water would do more harm than good. Wetting would probably ruin the sixty tons of silage in the silo. Lester then called Tom Hall, Johnson County farm agent, who was skeptical and said he never heard of a fire in a silo. Hall in turn called Dean R. I. Throckmorton at Kansas State College, who said "yes, he'd heard of fires in silos. They were very, very infrequent," but he had no suggestion to make on extinguishing them.

By midafternoon the smoke had increased. Lester called the Spencer Chemical Company in Kansas City and asked whether dry ice would do the job. W. W. Hutto, general manager of the company's carbon dioxide (or dry ice) division, said he believed it would. So a ton of dry ice in 50-pound cakes was placed in a storage bunker mounted on atop a truck. Lester, Hutto and H. H. Sender, superintendent of dry ice sales for the firm, followed in separate cars, speeding down Route 69 to the farm.

The silo, built three years ago at a cost of about $1,000, is 16 ft. in diameter. It was half filled. From on top, reached by climbing rungs on the outside, a patch of flame could be seen through the choking smoke. Attached to the wall at the top was a pulley on an iron standard used for guiding the blower of the machine used to fill the silo. A rope was reeved up through this pulley and down again; a pair of ordinary ice tongs was fastened to one end of the rope. The tongs were clamped into the first cake of dry ice. Shippy climbed to the top of the silo. A neighbor hoisted up the chunk. When it reached the top Shippy swung it over and let it drop into the big container. It was tough going. Finally a tractor was found to do the hoisting.

When the last cake (of the fifty) had been hoisted and thrown into the pit, Hutto took another look. He reported the flames apparently snuffed out. A little later the smoke had died down and Hutto was confident the dry ice had done the job.

Spontaneous ignition was listed as the cause of the fire, although the chopped alfalfa had been in the silo for five months. Such blazes are common in barns.

The theory behind the use of dry ice was that it would have a smothering

effect on the oxygen. It was believed its penetrating effect down through the feed, would last twenty to twenty-four hours.

Sender said the following morning that the dry ice apparently smothered the fire on top—but at that time it was discovered that a door at the bottom of the silo apparently had not been sealed, and a new hot spot had developed there. The silage was reported still smoldering.

Said Fire Chief H. P. Little, Topeka Township Fire Department, Topeka, Kans., who forwarded the above account: "It's a new way of fighting fires. Do you suppose that in the future one will call the ice man instead of the fire department when he has a fire?"

Boston Firemen Fight Unusual Fire*

As fire problems go, extinguishing a blaze in a water tank might well be considered a very simple proposistion. But it didn't pan out that way on December 13, 1948, at the Mystic Docks in Charlestown, busy section of Greater Boston.

Here, fire in a water tower 230 feet above the ground narrowly trapped two workmen (who inadvertently cause the fire) and before they had it doused, gave Boston fire fighters responding on two alarms a four-hour workout.

It all started when two workmen, Ernest Peterson and Vincent Patierno, began cutting away sections of the tall water tower, located on Mystic Wharf, close by the Boston & Maine Railroad switchyard. The tower was erected 40 years ago to supply sprinkler and auxiliary fire protection to a grain elevator and the Mystic Docks. It was of steel, surmounted by a water tank rising thirty feet above the four metal supports. Originally the tank held 100,000 gallons of water and provided water to hydrants and sprinkler systems in the area.

At the time of the episode, the tank was empty and workmen were preparing to raze the tower and tank to make room for the approaches of the new Mystic River Bridge, now under construction. Peterson and Patierno were cutting metal within the tank when sparks dropped through to a wooden platform at the bottom of the water tank, 196 feet above the roadbed. Fire involved the wooden construction and communicated to the pitch-impregnated insulation of the large riser which ran upright the entire height of the tower.

To further complicate matters, a rather high wind was blowing in the direction of freight sheds on the Mystic Docks.

The two workmen, cutting at the steel sections, were too far above ground to hear the warning shouts of fellow workers. Their first indication that their lives were in peril came when one saw smoke curling around the tower near where they were working. Investigating, they found the scaffolding below them afire and they lost no time scrambling out via a hatchway opening of the tank and down the wind-whipped step-ladder that formed the only means of ascent or descent.

Awe-stricken spectators and construction workers noting the fire, called the fire department. Box 4191 was pulled at 2:49 P. M., bringing five engine companies (one, a fireboat); two ladder companies and the District Chief. A second alarm was transmitted at 2:59 P.M., after the magnitude of extinguishing the fire, and the threat to exposures, became evident. The second alarm brought six engine companies (one a boat unit); two ladder companies and a rescue company; a water tower and one District and one Deputy Chief.

The strong breeze, the single ladder of ascent and the construction work being undertaken in the neighborhood impeded firemen in their efforts to get at the blaze. At the start, the best stream that could be brought into play fell 75 feet short of hitting the blaze. Meanwhile, as the fire communicated further into the canvas covered insulation of the riser, great chunks of the flaming material were torn away by the wind and carried like comets into the Boston & Maine freight yards. Bits of burning lumber from the staging also took off to threaten exposures over a wide area—as well as the operating firemen.

The water tower was maneuvered onto the Chelsea Bridge,which spans the railroad yards at a height of about 25 feet, and this was fed by 3½-inch lines from fireboats to produce a strong stream; however, even this fell short in the wind. Meanwhile, several hand-lines were run to the roofs of many of the freight sheds and operated to cool down the burning embers and flaming planking carried by the breeze. The threat of falling timbers also prevented an early attack via the lone metal ladder up the leg of the tower.

It wasn't until most of the insulation had burned away that firemen were able to concentrate on knocking out the fire in the remaining staging. This was undertaken by four members of Engine 26, Boston: Captain John J. Breen and Firemen Warren F. McInnes, James Morrison and Richard P. McCormick, who inched their way up the steel ladder carrying 100 feet of 2½-in. line and 1½-in. hose extensions and nozzles until they reached a small safety staging at the 180-ft. level, about opposite the burning timber. At first, although only 20 feet away from the fire, they coudn't get enough pressure to bring an effective stream to bear upon the blaze. Twice they returned to the ground for additional gear.

After fully an hour's effort, the crew from Engine 26 finally succeeded in extinguishing the fire in the 196-ft. platform and supply line. The "all-out" signal was struck at 6:31 P.M.

The tower itself was reported not damaged by the fire, but heat reduced the steam the water left in the tank after its supply had been shut off.

*The editors are indebted to Fire Chief John F. McDonough and to the Boston Post for the essential data contained in this account. In Chief McDonough's report he gives the tower's height at 230 ft., whereas the newspaper account states 246 feet above the ground.

Photo by A. G. Costa

Futile Effort Is Made with Water Tower Stream to Control Tank Fire at Boston.

East Paterson Collision Wrecks Pumper

Failure of a motorist to heed the warning siren on a fire truck, responding to an alarm of fire, resulted in a serious accident in East Paterson, N.

The pumper of Engine 1 of the community was struck by a 1948 Ford sedan at the intersection of Elm and Lee streets. Following the collision the Ford came to a stop in an empty lot 45 feet away from the pumper. The latter was badly damaged and will require a new pump and motor. The chassis was also bent.

Although no firemen were injured the driver of the Ford was hospitalized.

The alarm on which the company was responding turned out to be for a minor brush fire which burned itself out without doing any damage.

RICHARD ADELMAN

Blast of Water Fatal

An odd accident took the life of John J. Booker, 42, of Downington, Pa., Dec. 16, 1948. Booker died in Chester County Hospital, West Chester Pa., half an hour after he was struck by a blast of water at the Downington Iron Works plant.

The victim, an inspector for the past eight years, was checking a hydraulic pressure tank when he accidentally released the blast. The water struck him in the head, but did not injure other employes nearby.

The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

This Age We Live In

As a further example of the sort of things that try firemen's souls, take the case of 13-year-old Larry Rose of Pittsburgh, Pa. Larry, who wants to be a chemist when he grows up (if he ever does), blew off his pants, and the cellar door of his home.

He was trying to make a rocket, he said, and explained that during his lunch hour he mixed charcoal, sulphur, potassium chloride and cornstarch and packed it into the ¾ inch bore of an 18-inch zinc pipe, with wadding at the end. He placed it against the outside house wall, lit it, and ducked inside the cellar door to see what would happen. It happened!

The ensuing explosion blasted off the cellar door, and Larry's pants, shattered windows in the house and a neighbor's garage. The amateur scientist fortunately escaped with only the loss of his pants and slight burns of the legs and arm. Fortunately, also, firemen had nothing to do!

* * *

Hot Off the Tape

There was a fire at Rochester, N. Y., Fire Headquarters t'other day. Capt. Louks Huss of the repair division was working on a truck of the Protectives when the gasoline line broke and fumes flashed. The blaze was quickly extinguished, with negligible damage, but Capt. Huss received a hand burn. . . . A false alarm called Albany, N. Y., firemen to the State Capitol. No, it wasn't an election bet. . . . Two Lake View, Nassau Co., volunteers were injured in November when an extension ladder on which they and another fireman were practicing, broke. . . . The Christmas spirit lives: Doctors gave five-year-old Sanda Carpenter, of Jeffersonville, Ohio, an excellent chance to live after six Ohio penitentiary convicts gave 120 inches of skin five inches wide to enable them to do extensive skin grafting. The little colored girl was badly burned October 20 when matches with which she was playing ignited her clothing. . . . In New York City, Mrs. Geraldine Vetter, 38, accused of holding the hands of her small son over gas burner flames on Thanksgiving Day, as "punishment," had bail raised from $1 to $1,000 when it became necessary to amputate one of the boy's fingers. . . . "This is the most vicious case I ever came across," said Magistrate Morris Rotherberg. . . . James Morgan, Detroit, Mich., was charged Dec. 3 with creating a fire hazard by storing enough explosives in his shop to "blow the building up." Joke is he makes safety posters for the city. . . . Charles Clark, of Paul, Idaho, spent last summer as a parachute jumper for the Forest Service, spilling out of planes to fight fires. He went through the hazardous summer without injury. December 16th he suffered a broken leg, sprained ankle and bruises while diving at a University of Idaho swimming pool. . . . Woodrow Humphries, 28, of New York City, was told that setting fire to a girl's house is the wrong way to woo her. He is said to have poured gasoline and ignited it in hallway of fourth floor of apartment in which the girl friend lives. The girl suffered serious burns, and 150 persons had to flee the structure. "Burning suitor" was held in $10,000 bail. . . . Ben Zewalski, 49, Chicago, Ill., was critically burned when he lost a bout with his cigarette lighter. . . . In Lufkin, Tex., J. C. Allen, 38, was killed, and his niece, 11, injured when the automobile in which they were sitting watching a forest fire near Diboll was struck from the rear by another car. . . . Hon. Batt. Chief Johnny Weisberger, N. Y. C., tells about an X-curricular operation of the Jamestown, N. Y., Fire Department, in solving the big mystery of the haunted organ loft of the First Methodist Church, that city. The Brothers found and removed a pigeon that had got itself into one of the pipes of the organ. . . . Three men convicted in the slaying of a Yonkers, N. Y., fireman during a card game and hold-up, got life terms on December 13th. The victim was Joseph Polito who was off duty at the time he was shot and killed. . . . John Andrei, 16-year-old Brooklyn, N. Y., youth, accused of setting a livery stable fire in which a 55-year-old stableman was fatally burned and a number of horses killed, was freed of a charge of arson, December 13th, and rearrested on graver charge of homicide. . . . In Beloit, Wis., James Drager was shot by a cigarette. He placed a lighted fag on an ash tray and settled back to enjoy his newspaper. The cigarette touched off a bullet lying on the ash tray. Bingo! "No other cigarette can make that statement," says National Safety Council. . . . The Council also tells about Mrs. Swauger of Ravenna, Ohio, who was blown up by a sweet potato baking in her oven. You dope that one out, gentle reader! . . . While Lawrence Garvey, 40, and his wife, Irene, 42, were at a fund-raising bingo party to gather money for purchase of a new fire engine for the tiny community of Brooklands, near Rochester, Mich., fire destroyed their home, trapping and burning to death their four children, 9, 6, 4 and 1 years old, respectively.

* * *

Maine Fire Aid Cost $2,356,701

It is disclosed that the American Red Cross spent $2,356,701 for relief and rehabilitation in the 1947 New England forest fires. This tidy sum should be added to the total cost of the holocaust, which ran into the millions. Incidentally, it might be well to mention in passing that such increments are not usually included in the fire loss figures of disasters.

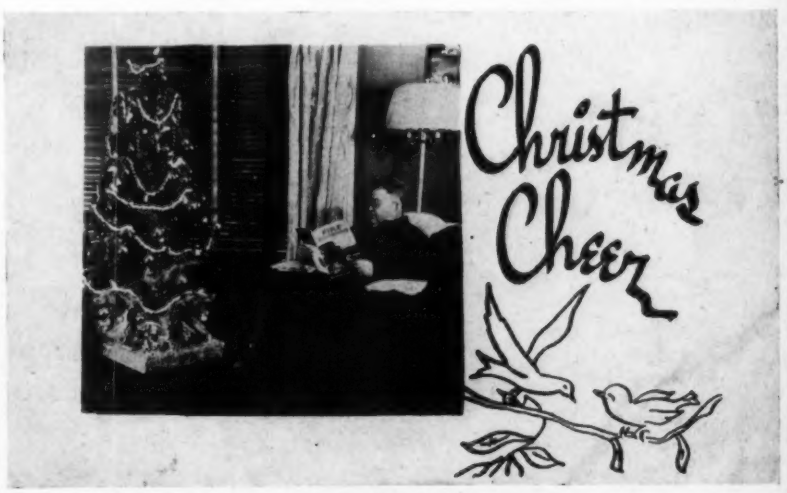
A final compilation on the disaster showed that some 41,200 persons received emergency relief from the Red Cross and that more than 1,100 families were rehabilitated. The Red Cross reported its biggest expenditure ($1,262,138) was for repairing and replacing 402 homes and 222 other buildings. Another $435,978 was spent on "rescue, transportation and shelter; $176,000 for food, clothing and fire fighting equipment, and $19,176 for medical, nursing and sanitation services."

* * *

Badge No. 13—Goody!

Badge No. 13 of the Waterbury, Conn., Fire Department remains in the Groody family, and there's a story behind it. On March 6, the Board of Fire Commissioners in that city appointed Edward M. Groody, Jr., a veteran Navy airman, as a regular fireman and presented him with the same badge, No. 13, which his father wore on his uniform hat before he retired last January after 27 years' service.

"I'm not superstitious," young Groody told the Fire Commissioners when they handed him the badge. "My dad wore it a long time and I'll be proud to carry it, too." (Thanks, TOM MAGNER.)



Novel Christmas Card

The above card of "Christmas Cheer" comes from that long-time reader and contributor to FIRE ENGINEERING, that peripatetic conventioneer, that I. A. F. C. sergeant-at-arms, that well known specialist in compressed air in the fire service—Captain Ed Lamb.

It's a cozy setting: Captain Lamb beside the tinselled tree settled down for a long winter's session with his favorite journal. But if you know your San Francisco, and the home of Captain Lamb, you've probably said, there's nothing but the warm sun of California outside those blinds.

And normally you'd be right. However, the irony of it is that not so many days after Captain had this Christmas card picture taken, San Francisco celebrated its first white Christmas in 75 years!

Short Cuts and Gadgets

SIAMESE TO SAVE TIME AT THE PUMPER

Ideas and short cuts for overcoming the time lost at a pumper in shifting from hydrant pressing to pump pressure have been many and varied. Not many of them were sufficiently simple and practical to find widespread acceptance in the fire service. One "short cut" sent this feature by a woman reporter, (we believe it's the first and only "short cut" to be received from the distaff side) is worthy of description.

Our contributor, Miss Winnie Smith, says that the idea was born in the mind of Pensacola fireman A. L. "Red" Jackson, driver for Company No. 3, after a fire had almost destroyed a home during the brief time that the water was turned off and the hose line uncoupled and shifted to the pumper to apply engine pressure. Jackson had laid out a thousand feet of hose and the pressure was so low that the order was given to hook up the pump. While the changeover was being made, the fire almost got out of control.

Johnson devised the use of siamese connections given the department by the civilian defense group. Chief Claude Wright, Assistant Chief William V. Johnson and Clarence E. Kramer, department mechanic, were called in to discuss the idea, with the result that the Pensacola Fire Department has been using the "Siamese hookup" ever since.

The old clapper-valve siamese, however, was not too satisfactory for the purpose, having been manufactured for wartime defense temporary use only. It was of cast iron and would break if dropped on hard surfaces. Also, a grain of sand in the threads would often cause trouble, resulting in leaking or not permitting the valve to swing open tightly to cover the outlet.

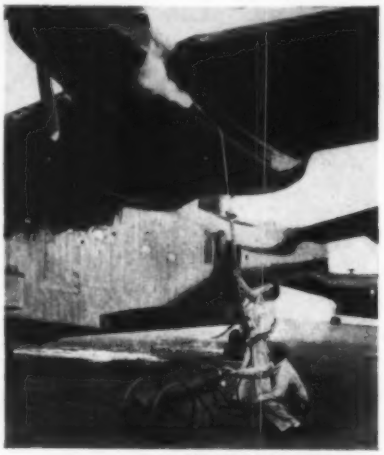
In 1948, factory-made siamese connections of great strength and were received by the Pensacola department, on special order. These new couplings are gated and have ball-shut off.

The hookup as shown in the illustrations, eliminates any loss of time in making the changeover. Last year the idea was introduced at the Florida Fire College, in Ocala, and is said to have caught on with a number of small departments. Captain Horace I. Tomkins, drill master of the Pensacola Fire Department, considers that "short cut" a "mansaver, timesaver and an insurance policy to property owners."

* * *

NAVY DEVELOPS CO_2 EXTENSION NOZZLE FOR AIRCRAFT FIRES

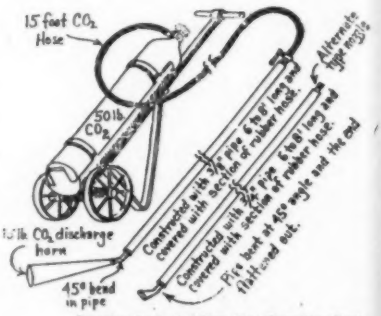
Headquarters, Fifth Naval District, Norfolk, Va., has released information on its latest development in equipment for fighting aircraft fires. This is an extension nozzle, or applicator, for making more effective use of carbon dioxide, as an extinguishing agent.



Official U. S. Navy Photograph

The Carbon Dioxide Extension Nozzle in Operation on a Fire in Aircraft Motor

The nozzle, which is described and pictured here with permission of Capt. F. H. Newton, Jr., Director of Security, Fifth Naval District, was developed by the Fire Department, Naval Base, Norfolk, primarily because experience showed that CO_2 was being wasted in ineffective attempts to apply it to aircraft motor fires from the ground level. As planes have increased in size the problem of CO_2 (which is widely used in aircraft fire fighting) so that it is most effectively brought to bear upon the fire, has grown more complicated.


15 foot CO_2 Hose
50 lb CO_2
Constructed with 3/4" pipe 6 to 8' long and covered with section of rubber hose.
Alternate type design
Constructed with 3/4" pipe 6 to 8' long and covered with section of rubber hose.
Pipe bent at 45° angle and the end flattened out.
45° bend in pipe

Drawing by G. S. Miles, Nav. Base Fire Dept.

Diagram of Carbon Dioxide Extension Nozzle for Use on Fires in Motors of Large Aircraft

Two general types of nozzles have been developed, as shown—one for operation on large planes, and one for use on small planes. According to Captain Newton, the nozzles are manufactured in the Overhaul and Repair Shops of the Naval Air Station, Norfolk.

* * *

GOOD USE FOR OLD BOWLING PINS

From Salem, Oregon, we learn that the Salem Fire Department has found a new use for cast away bowling pins. The pins are fastened on the running boards of fire trucks and used as pegs to hold spare hose nozzles.

* * *

The Old Timer Says—

Training in firemanship's a wonderful thing—but how're you ever going to break some chief officers of the habit of takin' the nozzle away from pipemen and trying to kill the fire all by themselves!

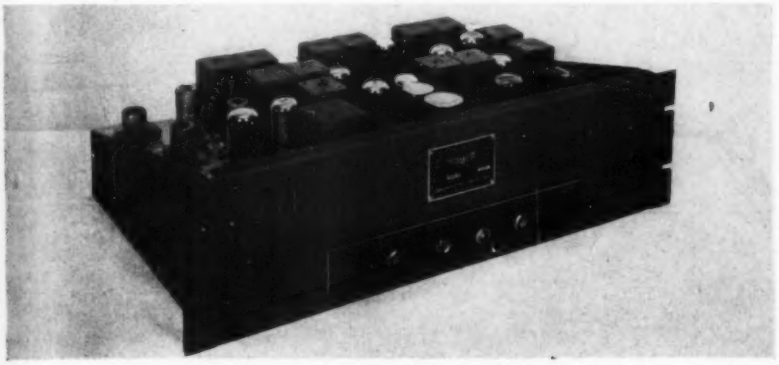
Photos by Winnie Smith

Left: A. L. Jackson Is Shown Turning Valve Open After Pressure Has Been Introduced Through a Connection with the Siamese. Right: Examining the Old Siamese Connection Are: Assistant Chief William V. Johnson, Clarence E. Kramer, Mechanic, and A. L. Jackson, the Originator of the Idea

Manufacturers' Announcements

Comco Introduces Highly Selective Fixed Station Receiver

The Communications Company, Inc., 300 Greco Ave., Coral Gables, Fla., "Comco" to the radiowise, has introduced a new receiver known as Comco Model 389 VHF-FM, which has a number of improvements that should be of interest to fire chiefs and fire service communications superintendents.



New Comco Model 389 Radio Receiver

Designed for use by fire, police and other services operating in the 152-162 MC band, the unit is said to meet the need for a highly selective fixed station receiver—a need especially great at this time with the possibility of over crowding of the 152-162 channel, and the possibility of 60 KC adjacent channel operation in the near future.

The company exhibited this unit at the 1948 Miami conference of the International Association of Fire Chiefs, where it attracted considerable attention.

Moon Fire, Inc.

Announcement was recently made of the formation of a new fire department supply firm, at 26 Ferry Street, New York City, with the name of Moon Fire, Inc. President of the organization is Gordon R. Mullins, well known fire buff and former state fire instructor. The Secretary-Treasurer position is filled by Timothy G. Stillman, who was formerly associated with the Gorham Fire Equipment Co. of Boston.

Among the novel services that will be made available to fire departments are a series of motion pictures of fires and fire department operations suitable for use either at social functions or training meetings.

In addition to the distribution of usual items of fire protection equipment, Moon Fire, Inc., has been appointed a distributor for Unox wetting agent, a product of Carbide and Carbon Chemicals Corporation.

Aluminum Ladder Catalogue

Aluminum Ladder Company, Worthington, Pa., has issued a new illustrated three-fold catalog devoted entirely to the line of aluminum fire ladders it has developed during the last 18 years.

The catalog gives full specifications and prices for 62 pieces of equipment falling into eight general classifications. Ranging from simple wall ladders to heavy-duty extension ladders, this equipment fills the requirements of large metropolitan fire departments and small plant fire brigades, alike.

Requests for copies of the new catalog should be addressed to Aluminum Ladder Company, 200 Carbis St., Worthington, Pa.

S. A. Airports to Get New Fire Trucks

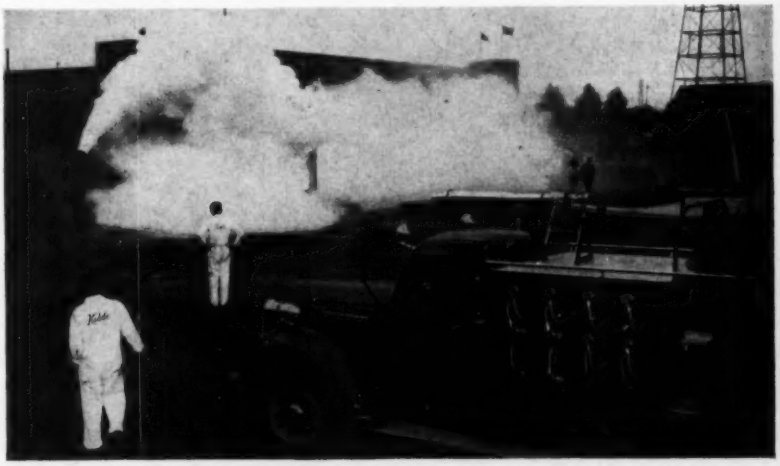
The first of six new airport emergency fire trucks equipped with carbon dioxide and mechanical foam extinguishing equipment was recently readied for shipment to Venezuela at the Belleville, N. J., plant of Walter Kidde & Co.

Two chassis of 27,000 pounds gross weight are destined for Maiquetia, official airport for Caracas, and for Maracay airport. Four 13,000-pound chassis will go to smaller airports in Venezuela.

Each of the two large emergency fire trucks have twelve 100-pound capacity cylinders of carbon dioxide fitted with flood valves arranged for operation in two groups of six cylinders. Leading from the cylinder manifold, directly behind the cab, are two 150-foot lengths of high pressure flexible hose which are wound on two hose reels atop the truck body. Each hose is equipped with a Multijet discharge nozzle capable of discharging 300 pounds of carbon dioxide per minute.

In addition to the carbon dioxide equipment, the new airport fire truck has mechanical foam apparatus capable of discharging 2200 gallons of foam per minute through a maneuverable turret nozzle mounted above the cab and through two 150-foot hose and nozzle connections. A pump and suction proportioner supply the nozzles from a 50 gallon foam tank and a 550 gallon water tank enclosed in the body. The turret nozzle permits discharge of foam while the truck is approaching a crashed plane.

The carbon dioxide system on each of the four smaller trucks comprises four 100-pound supply cylinders with similar hose lines and Multijet nozzles, and proportionately smaller foam extinguishing apparatus.



Demonstrating One of Carbon Dioxide Fire Trucks Which Will Protect South American Airports

Young Woman Becomes Apparatus Seller

With all the "shopping around" for better prices that has plagued both firemen and manufacturers of fire equipment, it was ordained that sooner or later a woman would enter into the hectic business of selling fire apparatus.

That's what happened in British Columbia. There, Mrs. Alma J. Diebolt has entered the shopping lists as the representative of the Ward LaFrance Truck Corporation of Elmira, N. Y., U. S. A., with headquarters in the Dominion Bldg., Vancouver.

Mrs. Diebolt also operates a Select Shopping Service ("Shop and Ship Anything, Anywhere—Bobby Pins to Bulldozers") through which she became enmeshed and entangled with the fire service. It was as a result of shopping for fire equipment for lumbering firms that Mrs. Diebolt became the first woman fire-engine salesman, at least in Canada.

Her latest "shopping tour" is to dispose of a "converted minesweeper" to some city that wants a fireboat. She's got an option on a nice 1942 model craft that ought to make a fireboat. It's down on her shopping list for a mere "$75,000-plus, maybe around $120,000 more to convert into a real fire fighter.

(*Continued on page* 49)

FALSE ALARMS

Meat Hungry

Customer: "Your dog seems fond of watching you cut hair."

Barber: "It isn't that. Sometimes I snip off a piece of ear."

The young husband wired home from his new job, saying, "Made foreman. Feather in my cap."

A few weeks later, he wired again, saying, "Made manager. Another feather in my cap."

After some weeks, he wired again, saying, "Fired. Send money for train fare home."

His wife unfeelingly telegraphed back, "Use feathers and fly home."

Independence

A dim-witted chap lived in a small town and had no means of support. The "boys" got together and decided to chip in 50 cents each and create a job for—we'll call him Lem. They then appointed a paymaster.

There was an old brass cannon in the town square, and Lem's job was to polish this cannon every day, rain or shine. At the end of the week the paymaster would turn over seven dollars to him.

Lem worked with great zeal for about three months, polishing and polishing. Then one Saturday night he approached the paymaster with a gild gleam in his eye.

"I'm quittin' this here job," Lem announced.

"What's the matter?" the paymaster asked. "Aren't you satisfied with the work and pay?"

"Oh, yes," Lem replied. 'But I've been savin' my money. Yesterday I bought a cannon of my own. Now I'm ging into business for myself!"

Major: "But, Rastus, why do you call your cooties arithmetic bugs?"

Rastus: "Cause dey add to my misery, subtract from my pleasure, divide my attention and multiply like the dickens."

The boss and clerks had gone out to lunch leaving only a pretty young bookkeeper in charge of the store. A handsome young man entered the store and asked: "Do you keep auto accessories?"

The young lady smiled her prettiest and replied: "Only me."

Brass Meets Crust

A new rookie met a brisk second lieutenant. "Mawnin'," drawled the rookie.

The infuriated officer launched a stinging lecture on military courtesy.

"Gosh," said the rookie. "If I'da knowed you was gonna carry on like that, I wouldn't of spoke to you atall."

Disappointment

The little girl wanted to see the dog doctor. The family pet had been sick and had to be taken to the vet and she wept because she missed going along.

The next time the dog took sick she coaxed and was permitted to go. But when she came home from this visit she seemed just a little deflated in spirits and her mother asked her why. "Well," she explained, "that doctor wasn't a dog at all; he was just a man."

Cheaper

An exasperated Hollywood producer was describing his holiday in Palm Springs.

"Did I have trouble with my wife!" he complained. "She's the type of person who's never satisfied. She had to go to a hotel that charges a hundred dollars a day. The next afternoon she had to go out horseback riding. So what does she do but fall off the horse and get knocked unconscious. I called a doctor, and he said she's be unconscious for ten weeks."

"Unconscious for ten weeks?" exclaimed his listener. "What on earth did you do?"

"I moved to a cheaper hotel."

Little girls choose dolls for toys,
While soldiers are the choice of boys;
But when they're grown up you will find
That each has had a change of mind.
The girls prefer the soldiers then,
And baby dolls attract the men.

Quick Thinking

"Hey Pop! Watcha doin' kissin' the maid?"

"Bring me my glasses, son. I thought it was your Mother."

Well Said

Nowadays, most people wait six months before going on their honeymoons. They want to see how the marriage works out before they spend the money.

"Faster, Faster!"

SAVE MORE LIVES

Make 1949 a record year for your department with an E & J Resuscitator!

EFFECTIVE IN REVIVING ASPHYXIA VICTIMS IN MANY EMERGENCIES

E & J Resuscitators have saved many thousands of lives in cases of smoke suffocation, carbon monoxide poisoning, drowning, electric shock, heart attack and other asphyxiation emergencies. The simplicity of operating these dependable life-saving machines has made it possible for Fire Departments to give community life-saving service unparalleled in history.

The safe, automatic breathing action of the E & J Resuscitator eliminates any possible chance of confusion in operation regardless of how tense the circumstance. The Portable Model, designed for your use, will withstand a long life of constant hard service. There are no soldered joints or rubber connectors in the mechanism to break down with wear. The unit can be operated flat down, upright, on either side or upside down, should the occasion demand. It can also be operated with the case closed and carried alongside a moving stretcher.

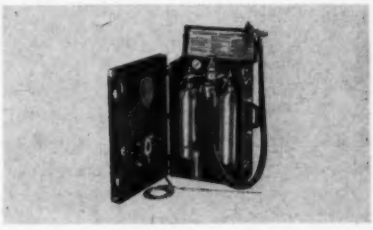
The E & J Resuscitator *automatically* adjusts itself to the volume of any size lung. It is equally safe and effective for adults and for tiny premature babies. And medical research has proved conclusively that the positive and negative pressure principle, which makes the E & J machine inhale *and exhale* for asphyxia victims, is the most effective method of artificial respiration available.

By merely flipping a switch the E & J Resuscitator can be transformed into an equally effective inhalator or aspirator.

MARK OF PROGRESS IN YOUR DEPARTMENT

The emergency conditions under which you are called upon to revive asphyxia victims set an increasing challenge each year. Providing E & J Resuscitator protection for your community is a mark of progress that means more lives can be saved.

Your versatile E & J equipment is three machines in one—Resuscitator, Inhalator and Aspirator. It breathes for those who cannot breathe for themselves, it automatically warns of breathing passage obstructions and provides for their removal, and it serves as an oxygen inhalator when only that function is required.



MAIL COUPON TODAY

There is no obligation on your part. You will want this machine for your department, so act now. E & J has a plan to help raise the money for you if your budget is limited.

TO: E & J MANUFACTURING CO.
DEPT. K-1, GLENDALE 1, CALIFORNIA

☐ Send me full information ☐ Arrange a demonstration ☐ Explain fund raising plan

NAME .....
TITLE .....
DEPT. .....
ADDRESS .....

"ALL-OUT"

DRY CHEMICAL FIRE EXTINGUISHER

EASIER TO HANDLE — lighter in weight by 7 to 15 lbs.

FASTER IN ACTION — 10′ x 10′ pit of blazing gas and oil *all out* in seconds.

PENETRATES CREVICES—completely blankets wide area.

ELIMINATES RE-IGNITION—works in winds and drafts.

NON-TOXIC, NON-CORROSIVE — harmless to everything but fire—including food.

SAFE ON ELECTRICAL FIRES—non-conductive.

FAN SHAPED NOZZLE — ejects flat stream; screens off flame from burning material; safeguards operator.

Only "ALL-OUT" gives *all out* protection. Demonstration anywhere, anytime. Write today for illustrated data.
Model A-16 illustrated, has 15 lb. capacity Model B-10 contains 10 lbs of dry chemical.

Protects the operator as it kills the fire.

ALL-OUT MFG. CORP.
2 PARK AVENUE, NEW YORK 16, N. Y.

For Practical Discussion of Current Fire Department and Fire Management Problems

ALL YEAR 'ROUND FIREMEN'S TRAINING

THE increase in fire department personnel, both paid and volunteer departments, focusses attention on the importance of training in firemanship and raises the question are the old procedures adequate to meet present and future requirements.

Because the majority of municipal fire department drill towers and training grounds are not protected from the weather, it has been the practice of some cities to discontinue all or most outside training evolutions during the inclement months of the year.

In some communities with no facilities for outside drilling and training, the entire dependence is upon lectures and other indoor instruction. In others, notably in the volunteer field, where training consists of fighting simulated fires in different buildings in the community, this work is discontinued during the inclement weather.

Readers are invited to send in their comments on this subject, which will be continued in the February issue. Address all communications to Round Table Editor, FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

Discussion of the Question

Lon C. Shaw, Chief, Fort Smith, Ark.: The Fort Smith Fire Department has a definite course of instruction in the department.

In 1943, I inaugurated our schooling with a course of study sponsored by the Arkansas State Fire College, composed of the Arkansas Fire Prevention Bureau, State Department of Trade and Industrial Education, State Firemen's Association and the State Fire Marshal.

This course includes instruction using eleven books on small tools, hose, ladders, fire streams, salvage, overhaul, ventilation, apparatus, inspection, first aid, and rescue, and the subjects are studied in that order.

An instructors training course, conducted by the State Fire Instructor, was held in Fort Smith at Central Fire Station for officers of the department to first quality them as instructors to teach the men.

At the completion of this course of study the students are given diplomas from the State Fire College, with the eleven seals, showing that each book of study has been completed.

Classes are held five days a week while the men are on duty, at each of our fire stations and at the present time all of the members of the department have their diplomas and seals with the exception of two or three new members.

All new members going to work for the department are immediately started on a primary course to acquaint them with the fundamentals of department work and thence into the State Fire College Course.

In conjunction with this inside training, i. e., blackboard work, lectures, problems, etc., members get actual training in ladder work, hose lays, pumping, etc., during the summer months when fires are at a minimum.

We have seen the value of this training, time after time, at fires both in getting the job done and in the protection of the men themselves.

We feel that the training received is invaluable to each individual member and to the department as a whole.

We consider our department first class and through training and study believe we can always improve.

We think an exchange of ideas with other departments (on methods etc.) would help improve the fire service.

D. Clawson, Chief, Winnipeg, Man.: Owing to climatic conditions being extremely cold for six months, training outside is carried on for six months in Summer.

A complete program of intensive training is carried on for this period at the training center by competent instructors, each station reporting at regular intervals to these instructors.

Theoretical training is carried on all year, when all phases of fire department activities are studied and dis-

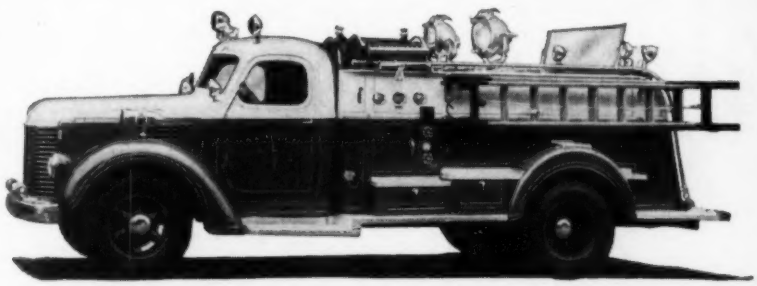
HERE IS THE TOPIC

1. **Are your firemen given outside training and instruction the year round? If not, in what seasons of the year?**
2. **Do they also receive inside training, i.e., lectures and blackboard work, etc., the year round? If not, in what season of the year?**
3. **What do you think should be done to improve training in the fire service?**

Modernizing a city fire department

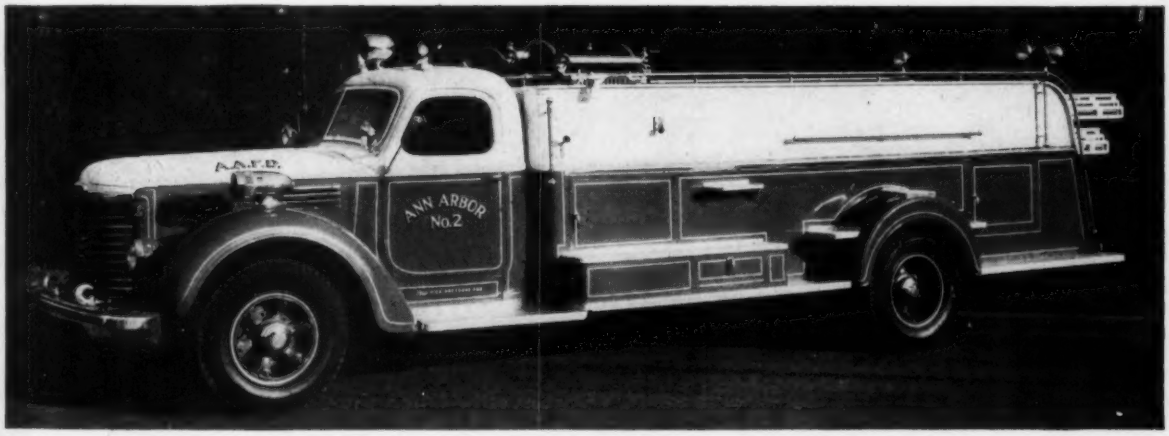
with a John BEAN HIGH-PRESSURE SQUAD TRUCK

THIS JOHN BEAN High-Pressure Squad Truck proved itself ideal at fighting city fires in Ann Arbor, Michigan. 2½-ton chassis; carries its own water supply of 435 gals.; provides two guns of 30 gals., each at 850 lbs. pump pressure.



and a...

John BEAN HIGH-PRESSURE SERVICE and LADDER TRUCK



FOR ADDITIONAL protection, Ann Arbor chose a John Bean High-Pressure Service and Ladder Truck. 5-ton chassis; 400 gals. water; assorted ladders to 45 feet; two guns of 30 gals., each at 850 lbs. pump pressure.

IS JOHN BEAN High-Pressure Fog Fire Protection suitable for city use? Read this case history of Ann Arbor, Michigan:

Two years ago, the Fire Department of Ann Arbor put a John Bean High-Pressure Squad Truck into service. It made every run from its station.

Results were beyond all expectations. Practically all fires were extinguished by Bean High-Pressure Fog.

Later, to make high-pressure fog coverage even more complete, Chief Zahn, of the Ann Arbor Fire Department, selected a John Bean High-Pressure Service and Ladder Truck. This choice had the further advantage of providing all necessary service and ladder equipment desirable when fighting fire with fog.

Now, in Ann Arbor, most of the nuisances of old-time fire fighting are gone. Water damage at blazes and excessive loss due to delay in getting to work on the fire have been eliminated.

Write us for complete information on John Bean High-Pressure Fog fire fighting and equipment.

BEAN Original HIGH-PRESSURE FOG FIRE FIGHTER

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY AND CHEMICAL CORPORATION

JOHN BEAN DIVISION, DEPT. 126, LANSING 4, MICH. • JOHN BEAN DIVISION (WESTERN), 409 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

cussed. This training is carried on daily in accordance with a syllabus of training issued from Headquarters weekly. This training is carried on by station officers under the supervision of the district chiefs.

Outside training is also carried on at each station during the summer months by station officers.

The improvement in the efficiency of the department fully justifies this program of intensive training.

Donald S. Charles, Chief, Charlotte, N. C.: The training program of our Department does not include year-round outside activity. Outside training programs are conducted in the spring and fall.

Year round training is given on the inside. This instruction emphasizes the use, care, and operation of fire-fighting equipment and apparatus.

The fire service could receive great benefit through the use of audio-visual education material. This suggests the need of a standard training program and the establishment of a central office for acquisition and distribution of material pertinent to the fire-service in general as well as the various state, regional, and local training schools.

Thomas H. Cotter, Chief, Providence, R. I.: A division of training is operated within the Providence Fire Department and is staffed with permanent personnel. The objectives of this division are to unify and coordinate all the instructional and training activities of the Department.

The functionary duties of this division which is operated on a year round basis are to exclusively exercise the authority to establish, maintain, conduct and supervise all schools, courses of training, drill programs or other instructional activities necessary to prepare and train recruits for permanent appointment to the Department; to instruct and qualify members of the Department for promotion to the rank of lieutenant or captain therein; and, to adequately train and instruct all members of the Department in the most efficient and effective practices and procedures involved in the protection of life and property from fire or other disaster.

Within the Division of Training there are five permanently established schools; they are as follows; a school of trainees, a promotional school, an officers school of instruction, a pump school and a company drill school, all of which are conducted as frequently as the objective of the school and the requirements of the Department make necessary or desirable. If it so happens that a class is convened in the extreme cold weather, such as a trainee's class, we move our outdoor program into the shelter of an armory here in Providence which has adequate training quarters for outdoor evolutions.

I think training in the fire service could be greatly improved by incorporating the use of a fire building on the training grounds, where, in conjunction with class work actual fire fighting could be carried on under various conditions. This I believe would give the members the practical experience which would tend to keep a Department at its best in the theory and practice of modern fire-fighting techniques.

Paul C. Fontaine, Chief, Fort Worth, Tex.: During May and April of this year, a conference was conducted for the officers of the Fort Worth Fire Department by Firemen's Training School, Industrial Extension Service of the Agricultural and Mechanical College of Texas. Then in December, 1948, our Assistant Chief and Drill Master attended the Fire Department Instructor's Conference in Austin, Texas.

All year, our Drill Master conducts a school in fire prevention and fire fighting at the Fort Worth Stock Yards Company.

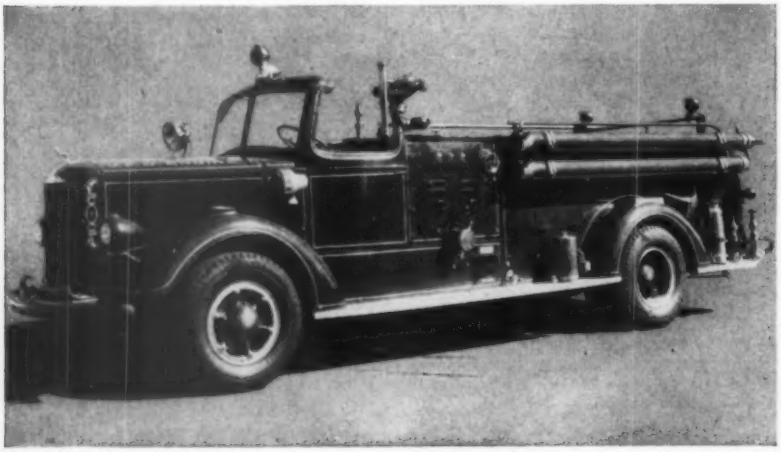
Training periods for drills, evolutions, studying of territory, etc., are conducted by the officers at each station during the entire year. All the men participate in these training periods.

Fire Service training could be improved by spending more time in class work where the most up-to-date information in fire prevention and fire fighting is presented and then followed by a discussion by the entire class.

Walter G. Strickfaden, Chief, Columbus, Ohio: Weather permitting, company officers are held responsible for the training and instructing of the men on their companies.

We have a drill manual that describes in detail the various evolutions performed by the Columbus Fire Department and in this way the men are kept familiar with standard evolutions or any changes that are made.

I think the drill manual is the answer to improving training. Before



Where Time Means Life...

GET INSTANT STARTS

with a KIM Hotstart

WHEN just a few seconds delay means heavy loss of property and life, quick starting isn't only desirable — it is an absolute necessity. That is why KIM Hotstarts are being installed on fire trucks all over the country.

This engine preheater, through percolator action, draws off cold water from the engine, heats it, and circulates it through the engine. Here are the results —

Quick, easy starts in any weather

Full power instantly

Reduces engine wear and depreciation

Prolongs life of batteries

Quickly installed on any engine.

Let us show you how KIM Hotstart will improve the operation of your fire department. Use the coupon.

KIM Hotstart

PAT. U.S. PAT. OFF.

KIM HOTSTART MANUFACTURING CO.
W. 917 Broadway, Spokane 11, Washington
Please send literature, prices and name of local dealer.

Name.....

Address.....

City.....

Zone.....State.....

CAIRNS

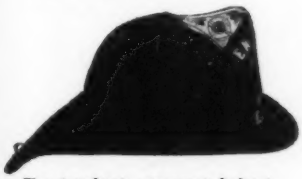
Outfitters to Firemen Since 1836

FOR SAFETY'S SAKE

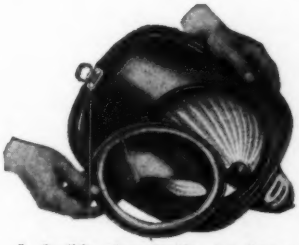
HEAD YOUR 1949 APPROPRIATION WITH

CAIRNS CUSHION-LINED HELMETS

THE "NEW YORKER"



The toughest, strongest helmet made—a "regulation" standard wherever leather helmets are used.



A flexible ring inside the lining moulds itself to the head-shape, grips firmly without pressure, insulates, absorbs shocks, and can be removed for cleaning.

THE "STREAMLINER"

A low-crown aluminum helmet combining "regulation" and drop-brim features.

THE "FLINT-FLEX"

The most rugged, durable "plastic" helmet made—in "regulation" style with standard front.

Our new manufacturing plant at Allwood, N. J., is the largest and most modern factory in America devoted EXCLUSIVELY to the production of high-quality firemen's equipment.

THE "SEAMLESS"

One-piece seamless leather crown, steel-reinforced — in "regulation" or drop-brim style.

THE "SENATOR"

A superior one-piece aluminum helmet in "regulation" style—light, strong and durable.

OTHER CAIRNS EQUIPMENT FOR FIREMEN

TURN-OUT CLOTHING — RUBBER COATS AND BOOTS — SHIRTS — CAPS — BELTS — BADGES — LOOSE-LEAF FIRE RECORD BOOKS — DEPARTMENT RECORD FORMS

THE "COMMANDO"

A "Flint-Flex" (plastic) helmet of advanced design—light, safe, durable.

Write for Catalog 334 • *Consult Us or Your Dealer*

CAIRNS & BROTHER, INC.

854 Bloomfield Avenue

ALLWOOD, CLIFTON, N. J.

we adopted this means of instruction there was a lot of confusion as to how the various evolutions were to be performed. There is no question now for the manual has all evolutions in detail.

Robert L. Woolard, Chief, Norfolk, Va.: Due to our climatic conditions we are able to have outside drills the year round. We have the regular semi-yearly drills in the spring and fall, conducted by our instructor, plus four outside drills for each company conducted each month by the captains of their respective companies.

We also have inside training, lectures and blackboard work the year round conducted weekly by the captains of their respective companies. We also use this method in our semi-yearly drill period by our instructor.

Each State Board of Education should haave a motion picture film exchange to furnish training film to each department throughout the State. Each department should try to simulate actual fire conditions as near as possible by using miniature houses in their ventilation and forcible entry work, etc. For the chemistry of fire as well as special training for engineers and operators, a regular fire college is a must in all larger departments.

Edward E. Wischer, Chief Engineer, Milwaukee, Wis.: Members receive outdoor and indoor training the year around although in freezing temperatures, hose lines are not charged with water.

Thorough instructions are given in all phases of fire fighting and the proper application of all fire fighting equipment, including apparatus, is given to meet every emergency, training manuals, lectures, blackboard, visual aids, and various appliances and models are also used.

In my opinion most large cities have adequate training programs to meet their requirements. In Milwaukee, plans for a new Fire Department Training School will possibly include accommodations which will permit the raising and extending of aerial ladders and the use of water throughout the entire year.

James H. Burke, Chief, Oakland, Cal.: Members of this department have received training from outside sources, Navy and State, intermittently throughout the year. Advantage is taken of all such opportunities regardless of the season.

No special "blackboard" training has been introduced as yet. Lectures and motion pictures have been given in connection with outside instruction. With the completion of a new headquarters building, class rooms will be provided and continuous class instruction will be maintained throughout the year.

There are many ideas upon the subject of improving training. I believe that fire department training to be effective must be conducted by qualified instructors. To be a qualified instructor requires years of actual experience as well as technical knowledge and the ability to impart his knowledge to others.

Large departments usually have officers so qualified. Small departments and volunteer departments which obtain very little actual experience, can best be served through a centralized state training center where they can receive a course of instruction. This training to be in addition to a correspondence course conducted through the state training bureau. In devising such a course, material regarded as "filler" should be eliminated as it serves no useful purpose except to charge a higher price because of its volume.

John P. McDonough, Chief, Boston, Mass.: Firemen in Boston are given outside training and instructions the year round. This calls for engine practice daily, including Sunday; raising of ladders and running of lines daily; safe driving instructions daily by officers assigned to this duty, all members participating.

The Fire School recently taken over from the U. S. Navy in South Boston is in use by our department and every member including Chief Officers and privates receive a five-day course of instructions; pump school included. One officer is detailed on gas mask instructions; chief officers also receive these instructions. Drill master and assistant, when not conducting drills for new members, visit the fire houses and conduct outside drill.

Fire College for Officers has been compulsory; course consists of twenty-one days of instructions, excluding Sundays and holidays.

Inside training is conducted when weather is inclement. Instructors in Morse Code visit the fire stations and teach members the Morse Code; members are designated as qualified

SERVICE
on
BUFFALO
FIRE APPARATUS

GOOD NEWS for owners of BUFFALO MOTOR FIRE APPARATUS! We have just completed arrangements with Buffalo Fire Appliance Corp. to handle ALL SERVICE NATIONALLY on Buffalo Apparatus. All existing parts, all existing patterns are now in our shop. Skilled Buffalo mechanics are on the job ready to handle your service needs PROMPTLY on a set, standard price scale.

Contact us **DIRECT** to avoid delays

YOUNG FIRE EQUIPMENT CORP.

Phone HU-2112

1546 WILLIAM ST., BUFFALO 6, N. Y.

telegraphers after completing prescribed course of instructions.

Red Cross first aid instructions have been given to officers who in turn convey their knowledge of this subject to members.

There is complete and comprehensive training program in this department.

William J. Connelly, Chief, Syracuse, N. Y.: There was placed in service in the Syracuse Department of Fire late in the summer, a new training tower and drill grounds, which, according to competent authorities, is one of the best in the country.

From the time of its formal opening in late August until recently, classes were conducted daily except Sunday.

We intend, in the future, to conduct instruction and drill work at the Training Tower plant and grounds daily, Sunday excepted, from early spring until late in the fall.

For the past year, we have been conducting Fire School and Fire College indoors during the winter months. The latter is designed primarily for instruction of officers and older men of the Department.

As soon as conditions permit in the spring, outside training and drills will be resumed at the Training Tower.

The lectures and blackboard work are to be carried on at both the outdoor and the indoor schools, and it is our plan to have sessions indoors throughout the year for the showing of fire films. In this connection we propose to acquire a movie camera to take pictures showing the men at work at major fires, and these will be shown for analysis and study by the general staff, the other officers and the firemen attending classes.

The Indoor Fire School, incidentally, is now being put in readiness in the reactivation of a downtown fire station, which is to serve as Fire Headquarters. This particular station has been used for the past several years by the Department of Education as a Technical Training School.

It may interest other Fire Departments to know that the forty-two Departments of Onondaga County, outside the City, and linked with the Syracuse Fire Department under a Mutual Aid program, have voted to hold their classes at the Syracuse Training Tower and Fire School, starting in 1949. It is expected that Syracuse Department personnel will conduct most of these classes.

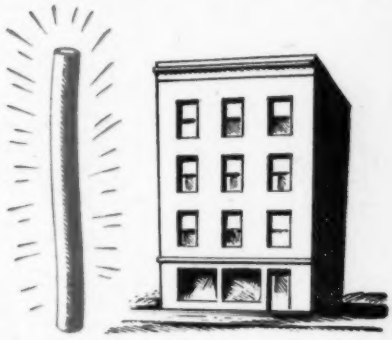
I believe that the training service can best be improved by modernization and expansion of the curriculum, to the extent that the men will receive full and complete training, instruction and drills to cope with all phases of firemanics. This will, I am confident, give them the necessary poise, know how and confidence they need when they run up against the "real" thing, in line of duty.

Of course, it goes without saying, that the training and drills should be followed and carried out just as intensively in Company quarters daily as it is at the School.

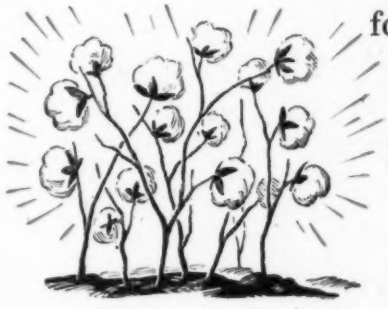
J. W. Carpenter, First Assistant Chief, Atlanta, Ga.: We have outside training the year round, weather permitting. Extensive outside training in the summer months.

We have inside training and blackboard work mostly during the winter

If You Could Unravel...



If you could unravel a 50-foot length of 2½" paragon 3-ply multiple woven fire hose (about the height of a four-story building), you would find that 10,993,920 inches* of premium quality No. 12 cotton yarn



(approximately 173½ miles) is used in its construction.

It is the manner in which this premium quality yarn is used in making Multiple Woven and other types of Eureka Fire Hose that guarantees long life and dependable service. Every length is Balanced-Woven under suspended weight tension—antiseptically treated with mildew-repellent Formula X—rubber-lined with bomb-tested, laminated-plied safety tubes. You can depend on Eureka.

*This is the correct answer to the guessing contest conducted by Eureka at the IAFC Diamond Jubilee Convention in Miami, November 9-12, 1948.

EUREKA

"For greater protection to life and property"

EUREKA FIRE HOSE

Division of United States Rubber Company

195 Hudson Street • • • • New York 13, New York

BOOKS
For Every Fire Fighter

FIRE CHIEF'S HANDBOOK

For progressive fire chiefs interested in up-to-date fire-fighting methods, the "Fire Chief's Handbook" will be a mighty valuable reference guide. It gives to ambitious fire department officers and men, in plain, understandable form, information that should prove extremely helpful in preparing for promotional examinations.

It is a book every fireman needs and ought to have. **Price $4.00 Postpaid**

FIRE SERVICE HYDRAULICS

Brings thoroughly up-to-date the subject of hydraulics as it pertains to every phase of fire-fighting — in simpler, more understandable and more complete form than ever. Not only that, it embraces, as well, many important new angles that have never before been covered anywhere.

"Fire Service Hydraulics" is a book every progressive fire fighter from the Chief down needs and should have.

Price $3.00 Postpaid

PROMOTIONAL STUDY COURSE FOR FIREMEN

To fire chiefs and other officials responsible for preparing examinations, this book will be found most helpful. And it is a mighty good reason, too, why fire officers and men should find it of inestimable value in studying for advancement. Covers in 48 chapter lessons most of the important phases of fire protection promotional study — mainly in questions and answers form. **Price $3.00 Postpaid**

QUESTIONS and ANSWERS FOR LIEUTENANT and CAPTAIN

Includes chapters on Report Writing How to Answer Examination Questions, Chemistry Examination Questions, Fire-Fighting Questions, Overhauling, Ventilation, Fire Prevention, Inspection, Evolutions, Drills, Use of Apparatus, Rescue Work, and in fact all the topics covered by the fire department promotional examinations.

Price $2.50 Postpaid

CASE-SHEPPERD-MANN PUBLISHING CORP.
24 West 40th St., New York 18, N. Y.

months and during bad weather. This schooling is for two hours daily.

To improve the fire service, I think one of the best things would be for every department to have a training tower where they could build and fight actual fires of the type that give them the most trouble in their respective city.

I also believe that there should be a fireman assigned to take moving pictures at all major fires. These pictures could then be shown in classes and the men could see their mistakes and correct them at the next similar fire.

I recommend a special officers' training school.

Frank Engenriether, Chief, St. Louis, Mo.: Companies are called to the Fire Department Training School, beginning in April and continuing through October, weather permitting, for ladder and hose evolutions as well as pump operation.

During the winter months the officers' school is in session, and after all officers have attended it is voluntary for the privates to take this course in order to prepare themselves for promotional examinations.

Training and instructions are also given at company headquarters each week by company officers.

* * *

The following replies are in answer to a previous Round Table on controlling traffic at fires.

C. Rush, Chief, Asheboro, N. C.: The police attend all fires and handle traffic. This method is usually satisfactory. Part of the time there are not enough policemen to handle the crowd.

George E. Gebelein, Chief, Blackwell, Okla.: In a small department like ours, we depend on our plugman to keep out the automobiles.

Some of our call firemen get to the firemen before the curious public gets there, and they help block off those who have no business there. If the police department is close to the fire they give us added help.

We have Miro-Flex ruby signs with "Fire" on them that reflect in the range of the headlights on approaching automobiles. That helps our men at night.

In the business district, the police department gives us our biggest help with the automobiles and by diverting traffic.

We make the best of what we have.

If our police department had motorcycle officers, we could make it more effective.

C. E. Neal, Chief, Livingston, Mont.: We are bothered considerably with automobiles at fires.

We have no particular method of handling them, but depend on the police to take care of this condition. If the situation is too bad, we bring the violators into court and fine them.

When our police are available they go with us and block off traffic to keep it away from where we are working.

Dick Kennison, Chief, Cedar Falls, Ia.: We use barricades six feet ten inches long and seven inches wide. These are painted yellow and have the red letters FIRE and stripes on them. These barricades are carried on the truck in a compartment underneath and take up very little room.

When an alarm for fire is received at fire headquarters, it is immediately sent out over the police radio to the cars patrolling. The first job done by the police is to get these barricades off the truck and place them at intersections, over hose lines or wherever they are needed. Red fuses are also carried to aid at night.

We find this method very effective and also a swell way to work with the police.

Arthur J. Groom, Chief, Herkimer, N. Y.: A section of the fire block is roped by police or firemen and guarded by them. This method is very effective.

* * *

The following replies are in answer to a previous question on regulating the use of painters' torches.

R. E. Pare, Chief, Montreal, Que.: Our statistics show that 217 fires were caused by such devices over a period of 5 years, several of which developed into major proportions. For this reason, the use of such hazardous equipment should definitely be controlled and to my mind the best method for doing so is to oblige painters and contractors to apply to the fire department for a permit and such permit to be issued only upon the approval of the Fire Chief after a thorough inspection of the premises to be painted had been made by a fire inspection officer. Where such operations are to be carried out in churches or buildings having concealed spaces in walls or ceilings, or in any building where wall or ceiling defects or cracks would permit flame or sparks to penetrate to such spaces, no permit should be issued. In all cases where authorization to use open flame devices is given, the contractor of painter should be obliged to provide portable fire equipment and have it readily available for use in case of emergency; in addition he should be warned by the fire inspector of the necessity for care in specific places on that particular job.

As far as out-of-town contractors are concerned, these can be controlled in the same way as local contractors under the permit system.

A. A. Feldman, Chief, Denver, Colo.: I believe that painters should not be allowed to use a blow torch for the removal of paint at any time. It is an ever present fire hazard, especially if a paint solvent is being used at the same time.

A city ordinance should be enacted prohibiting the use of any open flame for the removal of paint.

All painters should be licensed to operate in any municipality and upon obtaining the license should be instructed by having printed on the license rules governing their particular occupation.

Martin J. Hayden, Chief Engineer, Bridgeport, Conn.: By all means some control should be enforced by municipalities over the use of gasoline torches for removing paint.

Painters should be held responsible for damage done. They should prove that they are responsible before being given a permit to work.

All out-of-town painters should be given the same consideration as the local painter. This will stop every Tom, Dick or Harry who thinks he is a painter from taking work that he is not qualified to do safely.

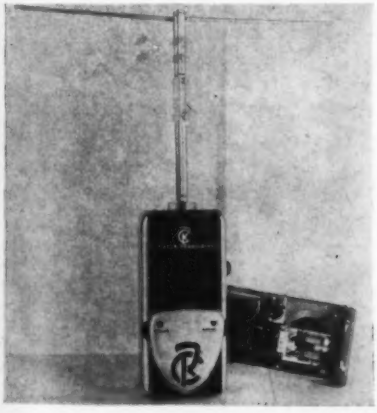
News of the Manufacturers

(*Continued from page 39*)

Civilian Walkie-Talkies Announced

A new portable radio receiver for public use between homes, automobiles, factories, farms and many other person-to-person radio telephone applications is now in pilot plant production, according to Al. Gross of the Citizens Radio Corporation, Cleveland, Ohio, which has

New Radio Which Includes Complete High Frequency Receiver and Transmitter. The Equipment, Developed by Citizens Radio Corporation of Cleveland, Weighs 11 Ounces and Has a Range Up to Several Miles

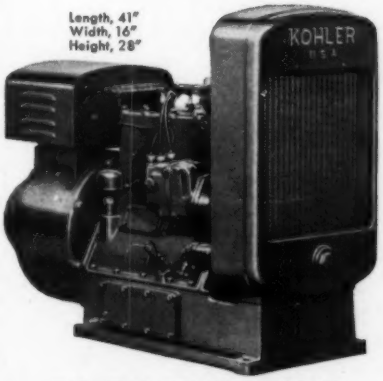


This New Radio Station, Developed by the Citizens Radio Corporation of Cleveland, Ohio, for Person-to-Person Communication, Has a Range of Several Miles; May Be Carried Anywhere, Since It Weighs Only Two-and-One-Half Pounds Complete. Receiver and Transmitter Shown Above Includes Microphone, Antenna and Four Subminiature Tubes for Oscillator and Super Regenerative Receiver

received the first F. C. C. type approval for equipment to be used on the 465 megacycle band allocated for civilian use.

According to the announcement the equipment is one-fourth the size of the famous wartime walkie-talkie and is the result of more than two years of research and engineering, including the use of subminiature tubes and silver-on-ceramics circuits to develop a unit for practical push-button, person-to-person radio communication for public use.

Floodlight night fires with KOHLER *Electric Plants*



Kohler Electric Plant 3A21, 3 KW, 115 volt AC. Automatic start and stop.

Kohler Electric Plants save time, reduce risks, by generating steady, reliable power for lights, electric tools, blowers, concrete breakers, public address systems, pumps, drills, saws and hammers. Chief Mullaney of the Chicago Fire Department writes: "They certainly proved their efficiency and we wonder how we ever worked without *this particular type of unit*."

Sizes: 750 watts to 10 KW. Write for illustrated Folder E-21. Kohler Co., Kohler, Wisconsin. Established 1873.

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS

THE NEW DELUXE
WHEAT
Rechargeable Spotlight
NOW AVAILABLE FROM STOCK

MODEL 253

ALL PARTS HIGH LUSTRE, CHROME FINISH—EQUIPPED WITH PROTECTIVE LENS GUARD AND ALL-LEATHER CARRYING STRAP

FEATURES

- Less expensive operation than dry cells.
- Free use of hands. Light carries conveniently on shoulder strap.
- Positive "Non-spill" construction.
- Light can be focused and directed as desired.
- Weighs only 95 ozs. complete.
- Simple to charge and water. No need to take lamp apart.
- Price and operating cost make Wheat adaptable to any budget.

2,500 FOOT BEAM
25,000 CANDLE POWER
1,000 HOURS OPERATION

KOEHLER MFG. CO.
MARLBORO, MASSACHUSETTS

Experimental units have been tested under many different operating conditions such as between home and mobile units, home and office, boats and shore points, and in farm and field. Their operation leads to the prediction that this type of personal two-way radio will provide a means of eye-witness reporting of news events, such as fires and disasters. Thus far, its possibilities of application within the fire service have not been fully explored.

The transceiver, two of which are required for person-to-person air contact, is housed in a tiny case measuring only 6" x 2⅜" x 1¼" topped by a small folding antenna. This pocket-sized radio station includes all the necessary equipment except a tiny headphone and batteries carried in a separate case about the size of a miniature camera. According to Gross the unit was made possible largely through the availability of subminiature tubes manufactured by Sylvania Electric Products, Inc.

The model 100-B radio is described as a transceiver for Class B stations only; operating on 465 mc., tolerance 0.4; input 3 watts; emission A-3 with 30% maximum modulation. The transmitting section uses Sylvania 6K4 subminiature oscillator and the receiver is super regenerative using three Sylvania IV5 subminiature tubes. The transceiver weighs only 11 ounces, including antenna, and total station equipment, including batteries, is only two-and-a-half pounds.

Davis Succeeds Proctor

Fred L. Davis was recently appointed Manager of the Alexandria, La., office of Eureka Fire Hose to succeed the late J. S. Proctor.

"Sir Sidney" Proctor died on September 20, 1948, at his home in Alexandria. He entered the employ of Eureka on January 1, 1914, in the capacity of Sales Representative under the management of the late P. O. Hebert, who was Southern Manager of the company with headquarters in Atlanta, Ga. In December, 1929, Mr. Proctor was appointed Manager of the Alexandria office, and served in that capacity until his death.

Mr. Davis entered the employ of Eureka on December 1, 1929, as Branch Secretary of the Alexandria office, and later went on the road as Sales Assistant to Mr. Proctor.

Russell Facilitates Ordering Uniforms by Mail

Over a period of years, Russell Uniform Company, 1600 Broadway, New York 19, N. Y. has evolved a simple system of ordering uniforms by mail.

With the Russell catalog, which illustrates and describes the modern style fire department uniforms, there is enclosed complete directions for enabling a man to take his own measurements so that when he receives his uniform it will be tailored to his physique. The measurements become a part of the order blank to the Russell Company.

The Russell catalog also lists caps, uniform shirts, firemen's rubber coats and badges.

New Dry Chemical Extinguisher

A new dry chemical type fire extinguisher has just been announced by American-LaFrance-Foamite Corporation of Elmira, New York.

According to claims of the manufacturer, it has many new outstanding advantages, such as long range, long duration of discharge, more complete discharge of the dry chemical contents, gas-tight, all-internal expelling gas connections, built-in safety disc, and is light in weight.

The dry chemical is nontoxic, noncorrosive, nonconductor of electricity, and will not freeze. The new unit has the Underwriters' Laboratories label and is rated B-1 and C-1. Recommended for flammable liquid and electrical fires. It is a hand portable unit identified as No. 30 Alfco Dry Chemical.

DeBoer Holds Sales Clinic

H. O. De Boer and Associates, national distributors of the Boyer Fire Apparatus line, held a sales clinic on October 18 and 19 at Lombard, Illinois.

The meetings were conducted at the St. Andrew's Golf Club where luncheons and dinners were served and where new visual selling aids were presented. The new Boyer-Marvel chassis was also displayed and its mechanics explained. A conducted tour of new units recently

Some of the Boyer Apparatus Salesmen Attending the De Boer Sales Clinic

Reading from left to right, Walker Stone, Springfield, Ill.; H. O. De Boer, Sr., Lombard, Ill.; Lynn M. Leslie, Columbus, Ohio; R. H. Hunt, Lombard, Ill.; Paul A. McClanahan, Columbus, Ohio; Paul Spiess, Saginaw, Mich.; C. K. Mead, Lombard, Ill.; Earl Hight, Boston, Mass.; Bert May, Cleveland, Ohio; Norman Flanigan, Louisville, Ky.; Jay K. Downer, Saginaw, Mich.; Dean F. Colden, Madison, Wis.; D. W. Stevens, Cassville, Wis.

delivered in the Chicago area concluded the general meeting. Two of these units are located at Melrose Park, and Lombard, Illinois.

Similar meetings in other zones are planned for the future by H. O. De Boer and Associates so that Boyer representatives can be constantly kept abreast of the character of the product.

Persons in the News

Hougland Made Indiana Marshal

Governor-elect Henry F. Schricker of Indiana has appointed Alex Hougland of Evansville as State fire marshal. Chief Hougland has been a member of the local fire department for the past 28 years and chief for the past 14 years.

He was chief under the two previous administrations, 1935-1943, and was reappointed last Jan. 1.

His record also includes five years as assistant chief, four years as fire inspector and nine years as a fireman.

He's a past president of the Indiana Fire Chiefs Association and is a member of the advisory council of the Indiana Municipal League.

Chief Hougland went on the fire Department in 1914, under Mayor Bosse.

In 1918 he was made a secretary of the Works Board.

Chief Hougland was back on the department in 1922 and served until 1926, when a change of politics in the city administration sidelined him. He and Ira C. Wiltshire, later police chief, ran a detective agency for four years.

He has served continuously since 1930.

W. B. CARLETON.

Bassemier Now Chief at Evansville

On January 1, Assistant Chief Clarence J. Bassemier of the Evansville, Ind., Fire Department was made Chief of that Department, succeeding Chief Alex. Hougland, who became State Fire marshal.

Chief Bassemier entered the department in June, 1937, at No. 5 Hose House. He served as lieutenant there the last year of the second Dress administration. During the five-year Reichert term, he was on the aerial truck at No. 1. Then he became assistant chief Jan. 1, 1948.

A native of Evansville, Chief Bassemier attended Central High School, where he was active in sports. He graduated from Central in 1933 and held down a number of jobs before deciding to make the fire service his career.

W. B. CARLETON.

Norman Sutton Safety Head of Frisco Railroad

Norman A. Sutton of Springfield, Mo., has been appointed supervisor of fire prevention for the Frisco railroad system, with headquarters in Springfield. He will supervise regular fire drills and check buildings and structures over the 9-state system for fire hazards.

Chief Kidney Opens Law Offices

Former Deputy Chief David A. Kidney of the New York Fire Department, who retired from active duty earlier in 1948

You Can Always Count on Briggs & Stratton

- To improve still further and make even better the world's finest 4-cycle, single-cylinder, air-cooled gasoline engines.
- To maintain and even raise the high standards set for materials, workmanship, methods, and precision production.
- To expand and still further improve the world-wide organization of factory approved service stations.
- To continue to be accepted as "preferred power" everywhere for industrial, construction, railroad, and farm equipment.

BRIGGS & STRATTON CORPORATION
Milwaukee 1, Wisconsin, U. S. A.

For Quick Starting Try a HALE FZZ

The FZZ will supply from draft 60 GPM at 90 lbs. and 150 GPM at 30 lbs.

Users are pleased with the quick-starting ability of the Hale type FZZ Portable Pumping Unit—an especially valuable feature in freezing weather. The 4-cycle, single-cylinder, 7.7 - H.P. Briggs & Stratton engine ensures ease and speed in starting . . . and plenty of power to the direct-connected Hale Pump.

Firefighters are amazed, too, at the pump's efficiency under tough pumping conditions. Letter after letter from users describes the FZZ's pumping ability to deliver through long lines of hose a volume and pressure they consider remarkable.

Write for FZZ folder. Let us know if your Company wants a demonstration.

HALE FIRE PUMP COMPANY
CONSHOHOCKEN, PA.
FIRE PUMPS IN ALL STANDARD CAPACITIES

Custom Built by BOYER

Fire apparatus tailored to your needs as in the instance of the Lombard order, special equipment space and mounting facilities were required. The order called for special roller type brackets to carry 84 feet of ladders. . . . A compartment for resuscitator between hose reel and pump. An automatic rear filler for booster tank provided this space—new ball-type discharge gates conveniently located all on the operator's side permits setting and locking valve in desired position. . . . These and many other special features are available.

Boyer apparatus is custom built. Just ask the Boyer man.

Write, 'phone, or wire:

H. O. DeBoer and Associates
NATIONAL SALES OFFICE: LOMBARD, ILLINOIS

BOYER FIRE APPARATUS CO.

as head of the Division of Combustibles, has opened offices for the general practice of law, at 111 Broadway, New York 7, N. Y. The former chief is a member of the State Bar of California and New York.

Peterson Heads Fairlawn, N. J., Volunteers

Deputy Chief Paul Peterson was elected Chief of the Fairlawn, N. J., Fire Department Nov. 29, 1948. Captain Robert Lindsay of Engine Company No. 3 was made Deputy Chief. The retiring Chief is George P. Zink, who also previously served as Deputy Chief and Captain of Company No. 1.

RICHARD ADELMAN.

Campbell Re-elected

Horace L. Campbell was recently (Dec. 8) re-elected president of the Spartanburg, S. C., Fire Fighters Association.

Others named were: Harry P. Williams, vice-president; G. L. Amick, secretary; R. G. Turner, treasurer; C. N. Wilcox, corresponding secretary; J. E. Danell, J. B. Steading and R. E. Sill, tustees; C. J. Toney, chaplain and H. C. Edmonds, guardian.

D. G. SPENCER.

Ex-Chief McCarthy Dead

John W. McCarthy, 79, for many years fire chief of Corning, N. Y., Fire Department, died in Youngstown, Ohio, Dec. 13, 1948. He was at one time president of the New York State Fire Chiefs Assn., and a former state vice president of the International Association of Fire Chiefs. Funeral services were held in Corning, where he resided for 40 years.

Appointments

URBANA, OHIO.—Kenneth Wilson, 34-year-old city fireman, was named Chief of the Urbana Fire Department in December by Safety Director Jack McKeever.

The new chief ranked first in a recent civil service examination conducted for five fire department applicants. Wilson will succeed Ray Muth, who resigned in October, as chief. Since Muth's resignation Assistant Chief Perry Ream has been acting head of department.

PITTSFIELD, MASS.—James P. deCoste, former Massachusetts State Trooper, of Pittsfield, has been promoted from deputy chief of plant protection at the Pittsfield General Electric Works to chief of police and fire for the Pittsfield Division. The new assignment carries responsibility for both phases of protection in the Holyoke and Fort Edwards, N. Y., divisions of G. E.

KEANSBURG, N. J.—Gerald Broander of the New Point Comfort Fire Company was made chief of the boro fire department in December, 1948. Ray Stryker of Fire Company 1 was chosen assistant chief.

AMHERST, VA.—J. P. Cunningham was again elected Chief of the Amherst, Va., Fire Department in December. The new-old head of the organization has

held that post since the department was founded in 1917.

E. H. Shanks was voted First Assistant Chief and L. D. Story, Second Assistant.

IRVING JOHNSON

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of December, 1948.

Month Ending December 31, 1948

Los Angeles, Cal.—Two hundred fifty thousand board feet of Redwood siding in Doninquez yd. of A. K. Wilton Lumber Co., destroyed. Electric dryer used to cure lumber.

Rollinsville, Colo.—Rollinsville postoffice, genl. store and restaurant destroyed. Faulty wiring.

Chicago, Ill.—Logan Furniture Mart damaged.

Chicago, Ill.—Bldg. occupied by National Tea Food Store and Johnny Coulon gymnasium, damaged.

Baltimore, Md.—Whse. occupied by Jay Dee Shoes, Inc., destroyed.

Buffalo, N. Y.—Whse. of Saperston Real Estate Corp. damaged.

Los Angeles, Cal.—H. C. Frisbie Co. electrical appliance mfg. plt. destroyed.

Deary, Ida.—Baker Hotel destroyed.

Long Valley, N. J.—Dairy barn on farm of William J. O'Dowd destroyed.

Albany, N. Y.—Imperial Pen & Pencil Co. plt., near Nassau, about 18 miles southwest, destroyed. Overheated plastic material.

Leduc, Alta.—Dowell, Inc., a chemical co., damaged. Explosion of coal stoker.

Shelbyville, Del.—Shelbyville Furniture Co. damaged.

Dupont, Pa.—High school bldg., Luzerne County, destroyed.

Grand Coulee, Wash.—Silver Dollar Tavern and three other business establishments, destroyed.

Yakima, Wash.—Three-story Price-Nashem Furniture Buikding destroyed.

Vancouver, B. C.—Plt. of John F. Sigurdson Millwork Co., False Creek ind. area, destroyed.

Pinecrest, Cal.—Karl's High Sierra summer and winter resort, destroyed.

Chicago, Ill.—Vacant bldg., 1142 W. 18th St., owned by Cook County, and several other dwellings, damaged.

Chicago, Ill.—Eagle Sheet Metal Mfg. Co. and Best Brewery Co. bottling plt. damaged.

Odessa, Tex.—Odessa-Midland Air Terminal Theatre damaged. Explosion.

Coppercliff, Ont.—Canadian, Ltd., chemical and acid plt., destroyed.

San Francisco, Cal.—Central Mill & Cabinet Co. plt. destroyed.

Pikeville, Ky.—Garage occupied by Lincoln-Mercury automobile agency destroyed.

Florence, S. C.—Rainwater Furniture Co. destroyed.

San Antonio, Tex.—Stonewall Hotel, United Amusement Co. and Universal Drug Store, damaged.

Montreal, Que.—Linda Canadian Refrigeration Co., Ltd., damaged.

Los Angeles, Cal.—Sherman Paper Products Co. whse. and adj. storage bldg. of Superior Macaroni Co. destroyed. Two dwellings damaged.

Hampton, Ia.—Bldg. occupied by Jennings food market and apts., destroyed.

Klemme, Ia.—Northern Implement Co. destroyed.

Sault St. Marie, Mich.—Bldg. occupied by Vogue Dry Cleaners destroyed.

Toledo, Ohio—No. 2 plt. of Commercial Metals Treating, Inc., destroyed.

Eau Claire, Wis.—Bldg. occupied by Sears, Roebuck and Walgreen drug stores, beauty shop and office of A. H. Shoemaker and adj. People's Men's Clothing Store, damaged.

Adairsville, Ga.—Planing mill and lumber yd. of C. E. King & Son, destroyed.

Corning, Ia.—American Legion bldg., occupied by legion hall and office, National Guard hdqts. and auditorium, destroyed. Adj. bldg. occupied by Corning Market, apts. and Corning Free Press, damaged.

Baltimore, Md.—Bureau of Mechanical and Electrical Services machine shop and whse. damaged.

Boston, Mass.—Fargo Naval bldg. damaged.

Buffalo, N. Y.—Store bldg., downtown section, damaged.

Pecos, Tex.—Three whses. at old Pecos Army Air Base, Leader Grocery and Bell Garage, destroyed.

Eskdale, W. Va.—Bldg. occupied by dept. store and doctor's office destroyed. Adj. postoffice damaged.

Windsor, Ont.—Adelman's two-story dept. store

POWHATAN in 1949

ANOTHER year in which you can rely upon the same high standards of service and dependability which has made the name of POWHATAN stand for Qualtiy Fire Department Brass Goods down through the years since 1892.

Chief POWHATAN and ALL HIS WARRIORS WISH ALL OF YOU

A Safe and Prosperous New Year!

POWHATAN BRASS and IRON WORKS
RANSON, WEST VIRGINIA
Phones 93 & 94 Charles Town, West Virginia
Established 1892

HOWE Fire Truck Equipment to Meet Every Service
Established 1872
HOWE FIRE APPARATUS COMPANY, 1402 West 22nd Street, Anderson, Indiana

ANOTHER BARTON-AMERICAN EXCLUSIVE

—Duplex-Multistage, Centrifugal, Midship Mounted—

A Bear for Work

IMPORTANT FEATURES

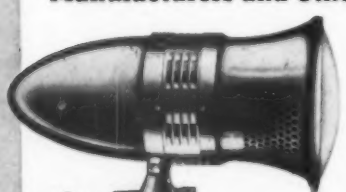
1. First Duplex-Multistage Pump developed for fire-fighting purposes. 2. The only fire pump with THREE distinct operating characteristics — other two stage pumps have only two operating characteristics. 3. Two independent pumps — breakdown of one pump still leaves one in service. 4. Heavy construction for high pressure "fog" service.

AMERICAN-MARSH
PUMPS, INCORPORATED
BATTLE CREEK, MICHIGAN

In Canada: C. E. HICKEY & SONS, Ltd., Hamilton, Ont.

STERLING SIRENS

NOT BY CHANCE . . . The Choice of Leading Fire and Police Departments, Hospitals, Manufacturers and Others



STERLING has led the field in new designs and improvements for over 40 years. First to introduce precision manufacturing of siren alarms, Sterling is now the world's largest manufacturer of siren equipment.

FOR EMERGENCY VEHICLES
Model 20 SIRENLITE—a powerful siren combined with an automatically flashing red light.

FOR STATIONARY USE
Model M—quick accelerating, powerful, heavy duty public fire alarm. Fully weatherproof, made from the highest grade material.

Complete Line of Siren Equipment Available. Bulletin on Request.

THE STERLING SIREN FIRE ALARM CO., INC.
58 Allen St., Rochester 6, N. Y.

and C. H. Smith's, the largest dept. store in the city, damaged.

Terryville, Conn.—Two barns on dairy farm of Harry Klepack destroyed.

Chicago, Ill.—Bldg. occupied by Capital Hotel, Olympic Cleaners and Hubbard Restaurant, damaged.

Ahoskie, N. C.—Mill and Whse. of Carolina Peanut Corp. destroyed.

Bryan, Ohio—Carroll-Ames Hardware Co. destroyed.

Rapid City, S. D.—Armory, Camp Rapids, destroyed.

Norfolk, Va.—Barn and packing shed on farm of E. L. Oliver, near Little Creek Amphibious Base, destroyed.

Wheatley, Ont.—Packing and freezing facilities of Omstead Fisheries destroyed.

Vincennes, Ind.—Empire Motor Co. damaged. Explosion in furnace.

Independence, Kans.—Bldg. occupied by Fleming Mercantile Co. and Hopkins Mfg. Co.

New Iberia, La.—Bulk plt. of Perret Sinclair Oil Co., destroyed.

Mancelona, Mich.—Bldg. occupied by Shaffer Mfg. Co., Christmas wreath and decoration mfrs. and Mancelona Potato whse., destroyed.

Lowville, N. Y.—Avalon Theatre destroyed; also Western Union office destroyed.

Hendersonville, N. C.—Dwelling of Paul R. Hasson, Kanuga section, destroyed.

Powers Lake, N. D.—Breding Bros. hardware store and garage, bldg. of John Nelson and Midway Hotel, destroyed.

Little Rock, Ark.—Whse. and combination shop-garage of Reynolds Mining Corp., near Bauxite, destroyed.

Breckenridge, Tex.—Liberty Cafe and Mode O'Day Shop damaged. Defective wiring.

Marshfield, Wis.—Plt. of F. F. Mengel Ready-Mix Concrete Co. destroyed.

Pembroke, Ont.—Furniture store and billiard room destroyed.

Oakland, Cal.—West Coast Macaroni Mfg. Co. plt., East Oakland, destroyed.

Chicago, Ill.—Hubbard Hotel damaged.

Jamestown, Pa.—Pymatuning Hotel, Route 322, three miles west, destroyed.

Porters, Tex.—Daniels Lumber Mill damaged.

Yakima, Wash.—Chamber of Commerce bldg. which houses Western Auto Co. and other concerns damaged.

Cambridge, Mass.—The old 3-story Prospect bldg. destroyed.

Warren, Pa.—Oil storage whse. of the Nu-Guard Chemical Plt. damaged.

Plattsburgh, N. Y.—Whse. and mill of the B-F-D Paper Co. destroyed.

Calgary, Alta.—Machinery repair shop, 18 miles north on Edmonton Trail damaged. Oil stove explosion.

Vancouver, B. C.—Crystal Sash and Door plt. destroyed.

Clarksdale, Miss.—Success Laundry and John Sign Co. destroyed. D. & J. Tire Co. damaged.

Superior, Mont.—Jones Lumber Co., West Superior, destroyed.

St. Louis, Mo.—Four whses. of Robert Baskowitz Container Co. destroyed; also bldg. occupied by Meier Drug Co. and apts.; garage of Hansen Moving and Storage Co., damaged.

Elmira, N. Y.—Storage bldg. of Webster Industries, Inc., destroyed.

Cottage Grove, Ore.—Cottage Grove Motor Co. destroyed. Incendiary.

Monteagle, Tenn.—Four main bldgs. and cottage of Monteagle Sunday School Assembly, destroyed.

Nashville, Tenn.—Craig-Morris Glass Co. destroyed.

Beechy, Sask.—Beechy Hotel, Miller's Genl. Store and Barr Bros. hardware store, destroyed. Co-op store damaged.

Oneida, N. Y.—First and second floor stores and offices in eight business-apt. bldgs., along Phelps street, from Main to James, damaged. Stores included Boston Candy Kitchen, Marcia's Yarn Shop, barber shops of Floyd Snyder and Frank Webster, Garvin's Liquor Store, Oneida Quick Shoe Repair, Central Shoe Shine Parlor, Hinman Jewelry Store, Champion Shoe Repair Shop, and insurance office of Hamblin, Munz & Hackell.

Spencerport, N. Y.—Spencerport Fire House damaged.

Nanticoke, Pa.—Calvary Evangelical Church destroyed.

Waco, Tex.—Brazos Valley Cotton Oil mill damaged.

Fort Morgan, Colo.—Eighteen planes and the hangar at the Municipal Airport destroyed.

Forest Grove, Ore.—The Fred Kuenzi meat market, the Hardy Food Center, adj. bldgs., damaged.

Prince George, B. C.—Sawmill destroyed.

Lakeville, Ind.—Factory of Hummer Equip. Co. damaged.

Detroit, Mich.—Plt. owned by Walter Jones and occupied by Norman Twombley, destroyed.

Cedar City, Utah—Branch Agricultural College library bldg. destroyed.

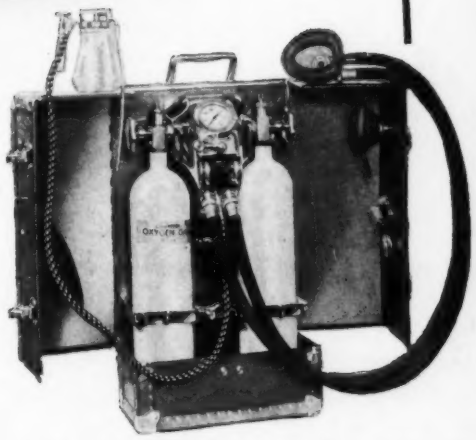
Elizabeth, N. J.—Center-Recreation, Inc., bowling emporium and tavern, damaged.

Toronto, Ont.—John R. Elford & Sons greenhouse destroyed.

New Hartford, Conn.—Factory of Lynch Bros., Inc., wire goods, metal stampings and screw

machine product mfrs., Pine Meadow, damaged.
Belleville, Ont.—Garage and salesroom of J. J. Trudeau, destroyed.
Arvin, Cal.—Cattani cotton gin destroyed.
Mediapolis, Ia.—Bldg. occupied by furniture store, variety store and undertaking establishment, destroyed.
Coldwater, Mich.—Legg Lumber Co. office and yds. destroyed. Newspaper plt. of Coldwater Daily Reporter, Up-to-Date Coal Co., Taylor-Chevrolet Auto Co., Ideal Wallpaper Co. and Regal Mfg. Co. damaged.
Port Huron, Mich.—Bldg. occupied by Fixit Shop and apts of Joseph J. Lambert, Laverne Goulette, damaged.
Mount Gilead, Ohio—Denton Seed House and Myers & Straing garage, destroyed.
Southampton, Pa.—Hyzer and Lewellen Refractories damaged.
St. John, N. B.—Garage and repair plt. of Schofield Motors destroyed.
Roberval, Que.—Sash and door factory of Gagnon et Freres, Lake St. John district, damaged.
Tisdale, Sask.—High school, 120 miles northeast of Saskatoon, destroyed.
Portland, Me.—Woodward & Purinton Co. garage destroyed.
Westboro, Mass.—1880 Club of Joseph Pazzella and adj farm storage bldg. destroyed.
Detroit, Mich.—Foundry at Bohn Aluminum & Brass Corp. plt. damaged.
Cass Lake, Minn.—Rathborne, Haire & Ridgeway box plt. destroyed.
Antler, N. Dak.—Antler garage destroyed.
Astoria, Ore.—Northwest Cities gas plt. damaged.
Montreal, Que.—Freight shed on Victoria Pier destroyed.
McGehee, Ark.—Desha Negro Training School destroyed.
Smyrna, Del.—Smyrna Town Hall destroyed.
Plymouth, Ind.—Bldg. occupied by Plymouth Moose Lodge clubrooms, Morris 5-and-10 cent store and People's Drugstore, damaged.
Braintree, Mass.—Warren Hardware and Electrical Supply Co. damaged.
Natick, Mass.—Clubhouse of Sherwood Golf Club damaged.
Kansas City, Mo.—Vet Products, Inc., plt. damaged.
Willow Grove, Pa.—Three bldgs. on farm of Joseph Lichtenstein, Davisville Road, destroyed.
Willow Grove, Pa.—Skateland at Willow Grove Park destroyed.
Fremont, Neb.—Davis Kavich Furniture Store destroyed and Terry Hotel and Pathfinder Press damaged in midnight fire.
Vancouver, B. C.—Larry Lodge Apt. bldg. damaged. Refrigerator explosion.
Mimico, Ont.—Plt. of Truck and Tractor Equip. Co., Etobiocke Township, destroyed.
Menlo Park, Cal.—Sport Cub, night club and tavern between Atherton and Redwood City, damaged.
Seattle, Wash.—Northwest Bolt & Nut Co. damaged.
Winnipeg, Man.—Evelyn Court Apts. damaged.
Forest Park, Ill.—Interstate Chemical Corp. plt. damaged.
Scottsbluff, Neb.—J. C. Penney Co. damaged.
Horseheads, N. Y.—Whse. owned by Webster Industries, Inc., damaged.
Peever, S. D.—Grain elevator of Victoria chain, destroyed.
Anchorage, Alaska—Panhandle Bar, Army-Navy surplus store, Larry's liquor store, Western Transport offices destroyed.
Verdun, Que.—Bldg. occupied by Fifth Avenue Departmental Store, Inc., and Household Finance, damaged.
Hot Springs, Ark.—Main bldg. at Veterans Haven, Govt.-owned recreation center for veterans, Lake Catherine, destroyed.
Little Rock, Ark.—Powell Bros. Garage, G. W. May Recapping & Retreading Co. and Weiman Bearing Co., damaged.
Denver, Colo.—Lakewood Country Club destroyed.
Gilcrest, Colo.—Grain elevator destroyed.
Stamford, Conn.—Whse. of Silverman Furniture Co. damaged.
Marissa, Ill.—Forest Inn, summer resort and tavern, destroyed.
Boone, Ia.—Bldg. of Krinkle-Smith Co. greenhouses, used for office, storage room and heating plt., destroyed.
Humboldt, Ia.—Jensen Paint Co., Coast-to-Coast Dept. store, Bowen Ben Franklin Store, Merrill Martin Jewelry Store and American Legion Hall destroyed.
Cambridge, Mass.—Three factory bldgs. owned by Wasco Flashing Co., sheet metal mfrs., Sherlock Sheet Metal Co. and H. U. Gillett Co., welding concern, destroyed.
Poplarville, Miss.—Modern Cleaners plt., Pay Hydes Grocery, Western Auto Associate Store, Modern Barber Shop and Thomas Jewelry Store, damaged.
St. Louis, Mo.—Two bldgs. at plt. of Kisco Boiler & Engng. Co. damaged.
Johnsonburg, Pa. — Johnsonburg Presbyterian Church damaged.
Kane, Pa.—Bowman Lumber Co. plt. destroyed. Fuel oil explosion.
Redding, Cal.—Casy's Feed and Seed Store and connecting pet shop of Frank Lawrence, damaged.
Fort Wayne, Ind.—Bon Ton Laundry damaged.

STEPHENSON RESUSCITATOR



Goodner Model (Portable)

Enables you to ADJUST THE OPERATING PRESSURES to fit the patient's needs

With the Stephenson Resuscitator you are not limited to a single set of operating pressures. You can now lower these for a small baby or a patient with chest injuries. It also performs four distinct functions:

RESUSCITATOR—INHALATOR—ASPIRATOR—ASSISTOR

Your first thought in the treatment of submersion, gas poisoning, smoke suffocation, electric or physical shock, or other asphyxia should be Stephenson. If you are not equipped with this outstanding resuscitator at the present time investigate now!

WRITE TODAY FOR LITERATURE OR FREE DEMONSTRATION

STEPHENSON CORPORATION
RED BANK · NEW JERSEY

10 TOOLS IN ONE!
Made from one piece

8½ lbs.
Pat. pending

DOES EVERYTHING EVERYWHERE

THE HALLIGAN TOOL

The perfect tool for fire service—a priceless tool at a fire.

EXAMPLE: The hook takes side walls; low ceilings; high ceilings from a chair or table; removes hasps or locks; drains, takes up floors or tin-covered roofs before a man could take a second swing with an axe, etc., etc., etc.

Any Hand-Forge Steel Man will attest that it is sold for less than the Man-Hour cost necessary to make tool.

CHIEFS—Remove NEVER-USED junk from apparatus and use this guaranteed non-bend, non-breakable, ALL-PURPOSE tool.

YONKERS, NEW YORK, WILLIAM C. GARVIN, CHIEF
At first fire, the "Halligan Tool" proved so effective, that a special appropriation was asked for and granted, to equip entire Department.

ENGLEWOOD, NEW JERSEY, EDWARD T. TRUSLOWE, CHIEF
"Halligan Tool" does fire-duty so easily, quickly and neatly, that we don't want to use anything else.

A FIRE APPARATUS ROLLING WITHOUT "HALLIGAN TOOLS" CHEATS THE CITIZENS, THE FIRE CHIEF, AND THE FIREMEN WHO DO THE WORK.

HALLIGAN TOOL COMPANY, 1505 Metropolitan Avenue, New York 62, N. Y.

North Manchester, Ind.—C. C. Wiemer canning plt. destroyed.
Youngstown, Ohio—800 feet Pittsburgh & Lake Erie Railroad track destroyed. Ashes ignited road bldg. material.
McAlisterville, Pa.—High school bldg., Fayette township, destroyed. Overheated stove.
Pittsburgh, Pa.—Plt. of Pipe Line Service Corp., Glenwillard, destroyed.
Rusk, Tex.—Hewitt Cafe damaged.
Houston, Tex.—Crawford Grain Co. damaged.
Vancouver, B. C.—Apt. bldg. damaged.
Chatham, Ont.—Weaver Industries, Ltd., plt. destroyed.
Ottawa, Ont.—Storage whse. and garage of Fournier Van & Storage, Ltd., destroyed.
Birmingham, Ala.—Whse. of Brentnall Furniture Mfg. Co. destroyed.
Pontiac, Mich.—All Saints Episcopal Church destroyed.
Brooten, Minn.—Theatre, Taber's Cafe, Nelson Hardware, Nelson Genl. Merchandise Store and Nelson Mortuary destroyed.
St. Paul, Minn.—Business bldg. between Third Street and Washington Avenue, destroyed.
Athens, Tenn.—Edna's Restaurant destroyed. Defective wiring.
Bellingham, Wash.—Deal Motor Co. destroyed.
Eau Claire, Wis.—Mt. Washington Tuberculosis Sanatorium annex, owned by Eau Claire County, destroyed.
Lena, Wis.—Lena Methodist Church destroyed.
Tomahawk, Wis.—Bldg. occupied by city hall, fire dept. and library, destroyed. Defective heating plt.
Lake Wales, Fla.—Citrus feed mill plt. of Florida Canners Cooperative destroyed.
Idaho Falls, Ida.—Westergard Transfer Storage, Western Electric, Western Potato Co., Morely-Chapin Furniture Co. and Eastern Idaho Equip. Co. bldg. destroyed.
Springfield, Ill.—Illinois Garage Supply Co. damaged.
West Liberty, Ia.—Morris Dept. Store, Morris & Wellen Drug Store and Bob's Radiator Shop, destroyed. Bldgs. also included apts.
Mechanicville, N. Y.—Store-apt. bldg., downtown section, destroyed.
Buffalo, N. Y.—Bldg., 285-289 Ellicott st., occupied by two printing plts., damaged.
Wallace, Ida.—Four-story plt., Hecla Tailing Plt., Osborn, destroyed.
Benton Harbor, Mich.—Whse. of M. H. Martin Paper Stock Co. damaged.
Elyria, Ohio—W. T. Grant Co. store destroyed. Adj. store of J. C. Penny Co. damaged.
Tulsa, Okla.—Whse. and offices of Lincoln Electric Co. destroyed.
Lakeview, Ore.—Lakeview Frozen Food Locker Plt. destroyed. Short circuit.
Lemmon, S. D.—East Side Garage destroyed.
Twisp, Wash.—Campbell Hotel destroyed.
Manchester, R. I.—Mercantile bldgs. occupied by Roy's Diner, Jason's Jewelry Store, Lake Avenue Bakery and Tine Totland, damaged.
Hiawassee, Ga.—Ric-Messer Bldg., occupied by Messer Motor Co., Smitty's Restaurant, O'Quinn's 5 & 10 Cent Store, Hadden's Radio Store and several offices, damaged.
Miami, Fla.—Colonial Storage Co. whse. damaged.
Brainerd, Minn.—Hilltop lodge, summer resort, Camp Lake, one mile east of Pine Center, destroyed.
Nampa, Ida.—Valley Fruit and Produce Co., whse., destroyed. Kerosene stove explosion.

Correction

In "What's Burning" in the November issue of FIRE ENGINEERING, a garage fire was listed as having occurred in Binghamton, N. Y.

Chief William D. Thomas of the Binghamton Fire Department has advised us that this fire occurred in a garage belonging to the Broome County Highway Department and located at Nimonsburgh, N. Y., which is about five miles north of Binghamton.

November Losses Continue Upward

Fire losses in the United States began their annual winter climb during November, totalling $52,949,000, an increase of 2 per cent over losses of $51,845,000 recorded in October, according to estimates announced by W. E. Mallalieu, general manager of the National Board of Fire Underwriters.

November's losses brought the total fire destruction for the year to date to $641,717,000, an increase of 2.7 per cent over losses of $624,274,000 for the first 11 months of last year.

On the basis of these figures, destruction by fire throughout the United States may break all records during 1948. Losses so far this year are just $50,918,000 less than the record breaking $692,635,000 loss reported for the United States during 1947.

The losses during November were 3 per cent higher than losses of $51,346,000 recorded during the same month in 1947.

Destruction by fire during the past 12-month period ending November 30 is estimated at $710,078,000, which approaches the all-time high of $711,576,000 reported for the 12-month period ending September 30 this year. This estimate of $710,078,000 is 4 per cent greater than losses of $682,368,000 reported for the 12-month period ending November 30, 1947.

These reported losses under fire insurance policies include an allowance for uninsured and unreported losses.

Manoa Tries Firebug Remedy

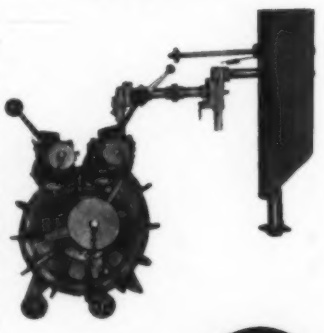
Firemen in Manoa, Penn., have hit upon an effective way to cure firebugs, and at the same time to get a lot of work done around the firehouse.

An epidemic of field fires came to an abrupt halt when two 18-year-old youths who had been setting the blazes, just for the fun of it, were caught.

The boys might have been booked for malicious mischief, disorderly conduct or perhaps even arson. But Manoa's fire chief, Emil Keller, has a better plan.

He haled the culprits and their parents before Police Lieutenant Neil McFadden and worked out a deal. For three months the boys are to be on voluntary probation. During that time they are to be home by nine p. m., except Mondays, when they are to report to the firehouse for such chores as may be given them.

If the boys behave and do as they are told, there will be no formal charges

WAR SURPLUS SPECIAL!
high volume
CENTRIFUGAL PUMP
. . . designed for fire fighting
• UNUSED
• MADE BY WELL KNOWN FIRE PUMP MANUFACTURER
Used by the armed forces for fire fighting . . . provides high pressure, efficient under tough pumping conditions, quick starting, can be mounted easily, permanently.
Pumps rated 500 gallons per minute at 275 ft. head pressure.
Equipped with 1½" diameter- straight splined shaft for direct coupling drive; 4½" threaded suction intake; two-2½" threaded discharge outlets; required 37 H.P. Dimensions: 21"x24"x28".
Complete with full accessory kit including suction and pressure gauges, priming equipment and instruction book. Ship. wt. 415 lbs.
SATISFACTION GUARANTEED!
send payment or order now
mail orders filled promptly
GROBAN SUPPLY CO.
DEPT. FE-1 1507 S. MICHIGAN AVE., CHICAGO 5, ILLINOIS

GOV'T. ACQUISITION COST $425.00
now only . . .
$149.50 F. O. B. CHICAGO
RUSH THIS COUPON TODAY
Send FIRE FIGHTING PUMP
I enclose:
☐ Check ☐ Money order ☐ Send C.O.D.
Rated firms, net 10 days.
NAME
ADDRESS R. RTE.
CITY STATE
SATISFACTION GUARANTEED

against them, and no publication of their names. If they backslide, the law will be allowed to take its course.

Under the agreement the boys reported and waxed a fire engine. Other pieces of apparatus are awaiting similar treatment, and after that there are floors to be scraped, brass to be polished and woodwork and trim to be refinished.

The firemen who usually do those jobs themselves are convinced that the ends of justice are being served.

World Wide Fire News

By Roi B. Woolley

Mysterious Stench Alarms San Francisco Bay Region

A "nauseating stench that smelled like naphtha or some by-product of petroleum or natural-gas fields" was blown into the San Francisco Bay region for hours late in October, causing sickness and near hysteria in some parts of the area.

Carried in from the Pacific on a twelve-mile west wind, the heavy odor spread along a thirty-mile stretch of coast and carried eastward across San Francisco Bay into Oakland and Richmond as far as the refinery areas, where it lost itself among similar smells.

Penetrating San Bruno, a small Peninsular community, the odor touched off a wild rumor that an unidentified enemy was making a gas attack. Panicky housewives jammed telephones, flashing word from phone to phone and attempted to seal windows with adhesive tape. At near-by Broadmoore village, women ran into the streets crying and carrying their children in their arms. Residents of the Sunset district became sick from the smell, which was stronger at upper levels. Workers in the upper stories, left downtown office buildings.

The stench first was noticed about 11:00 A. M. Telephone switch boards of the utility companies, newspapers, fire and police departments were jammed with thousands of calls. Police, fire and health department investigators, and gas company tracers assigned to track down the origin of the smell, were reported baffled. At this writing the mystery remains unsolved.

* * *

Predicts 10,000-Mile Missile

Fire officers are pondering the prophecies of Gen. Joseph T. McNarney, Commanding General of the Air Materiel Command, Wright Field, who warned in December that while America must not consider itself prepared for push-button warfare, it "can no longer afford to fight a war of the future with the strategy, tactics and the conventional weapons of the last."

Speaking at the Waldorf-Astoria Hotel to patent and research experts, the general gave a graphic word picture of current developments in the field of rockets, jet propulsion and super-sonic flight and envisioned a missile with a 10,000 mile range.

The critical problem in the development of such a weapon, he said, is guidance. As ranges increase, the accuracy of radio and radar guidance schemes decreases. The answer may be "automatic celestial navigation" he added, which continually determines the posi-

TURN YOUR SPARE TIME INTO PROFITS
$84.00 A WEEK FROM 2 SALES A DAY

Sell **RANDOLPH Fire Extinguishers**

Every building holds a prospect — Homes, Boats, Cars, Garages, Gas Stations, Shops, Laundries, Farms, Hotels, Stores, Factories.

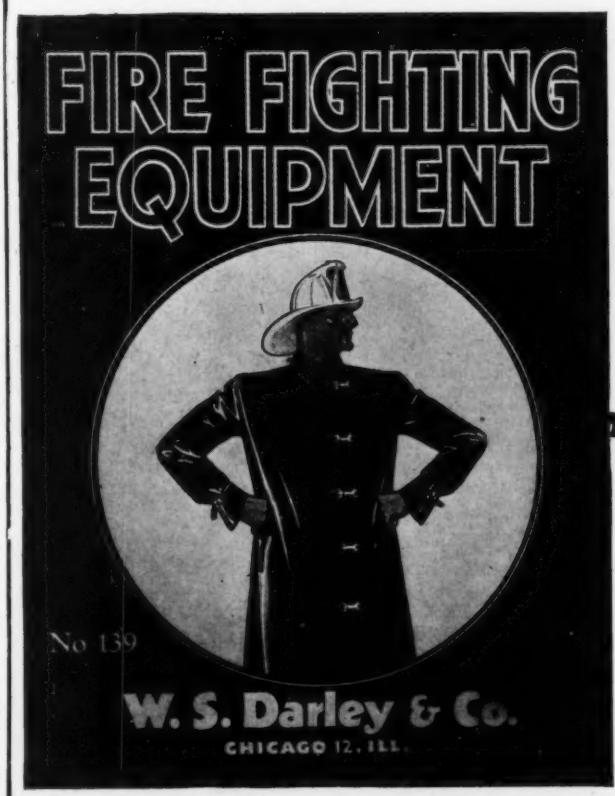
THEY WANT A RANDOLPH with its panic-proof trigger action that smothers the fire instantly in a snowy blanket of carbon dioxide. No mess, no water, no damage, even to food. It evaporates without a trace.

YOU CAN QUALIFY for exclusive territory to sell the famous, nationally advertised Randolph used by leading industrial concerns everywhere.

Approved by Underwriters' Laboratories

Quick profits await those who act at once. Four sales a day net $168.00 a week. Write today for full or part-time plan, territories, demonstration kit, etc. Don't delay.

RANDOLPH LABORATORIES, Inc.
19 EAST KINZIE STREET CHICAGO 11, ILLINOIS



NEW 100 PAGE CATALOG

Everything for Fire Depts.

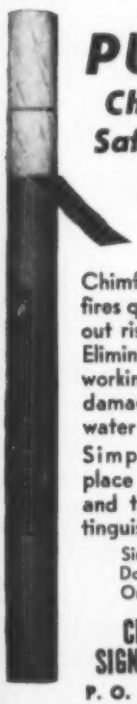
Write Today For Your Copy

"Fit for a Chief"
AND ALL FIREMEN

Made of Heavy Duty Light Weight Fire Red Water Repellent Duck. Lining of Matching 100% Virgin Wool. Large Outside Pockets, Deep Inside Pocket. EXTRA Heavy Duty Zipper. Light to Wear, RUGGED, Long Wearing, Easy to Clean — And it is WARM. Retail $28.50 — Chief's and Volunteer Fire Dept. Special $22.50 delivered. Matching Rubber Lined Fire Red Pants, Special $12.50.

THOMPSON ENGINEERING CO.
MOTOR FIRE APPARATUS
Grand Rapids 2, Michigan

CHIMFEX
THE CHIMNEY FIRE EXTINGUISHER



PUT OUT
Chimney Fires
Safely from the
INSIDE

Chimfex puts out chimney fires quickly, easily and without risk of life or property. Eliminates the hazard of working from the roof and damage from the use of water or acid.

Simply scratch the tip, place at base of chimney and the fire is quickly extinguished.

Simple—Safe—Efficient
Don't be without them!
Order a box on trial

CENTRAL RAILWAY SIGNAL COMPANY, INC.
P. O. BOX 360, PERU, IND.

tion of the missile by celestial fixes and transmits signals to the auto-pilot in the missile to correct the devices on its course...

In his review of the development of four guided missiles, McNarney said such weapons would be effective in the event of an enemy bombing attack on a major American city. Such attack, he warned, is possible "at this very hour when we consider the long distance feats already accomplished by our own B-29 Superfortresses, which are even now being relegated to the realm of obsolescence."

The general said that the development of certain guided missiles, or large bombs of the 12,000 pound, 22,000 pound and 43,000 pound class, designed to strike a specific enemy with high accuracy, is possible in the immediate future, with the 12,000 pound bomb being available within the next year.

The problem of defense against attack by enemy missiles of the V-2 rocket type used by the Germans in the last war, he admitted, is considerably more complex. At present, it would appear, there is no defense.

* * *

Festal Custom Fatal to Swedish Girl

One Swedish girl died by fire and another was in critical condition following nationwide ceremonies known as the Lucia day festival held throughout Sweden.

The festival honors a beautiful Christian girl named Lucia, who was killed by the sword in the fourth century when according to legend, infidels were unable to burn her at the stake. The celebration calls for thousands of the nation's prettiest girls to wear lighted candles in their hair.

Mrs. Gertrude Akymberg was burned fatally when she tripped over her long white skirt, and the lighted tapers set her afire as she went to serve her landlord coffee in bed at Tierp, in central Sweden.

Kerstin Braenstroem, 26, a nurse in a northern Sweden hospital, was badly burned when her white gown caught fire while she was serving patients in the hospital. The favorite nurse at the institution, who was to be married this Christmas, stumbled over her skirt, as she led a procession of girls into the ward. She fell, and the candles ignited her clothing, enveloping her in flames.

* * *

Hot Off the News Ticker

It is learned that earlier this year the entire village of Quintas, Portugal, was burned when a rocket fired by village peasants in honor of their patron saint, set fire to a thatched roof. . . . Army officials in the San Jacinto ordnance depot, Houston, Tex., are investigating the presence "of a large percentage" of live ammunition in steel scrap shipments received during a twenty-four hour period by a local steel mill. Employes of the depot were put to work rendering the shells harmless. . . . French reports say that a $1,000,000 explosion at Laghouat, Algeria, resulted when two army trucks laden with munitions collided. First reports claimed nineteen persons were killed and about 100 injured. . . . Five workers were killed and two injured in an explosion at the Saarwellingen dynamite works, fifteen miles northwest of Saarbrucken, it is reported. . . . In New York City, six firemen were overcome, fighting a stubborn fire in the hold of the 9,000-ton Panamanian freighter S.S. Centauro, tied up at an East River pier. . . . A phony warning that Manhattan's Grand Central Depot would be blown up, brought patrolmen, detectives and railroad police to the scene. . . . Thirty families were driven from their homes at Lorain, Ohio, by a series of explosions and a fire that destroyed the plant of the Brush Beryllium Co. The fire was believed to have started from chemicals used in atomic bombs. . . . Six crewmen of the 62-ton coastal trader M. & L. Lodge saved themselves after rowing for fourteen hours from their burning ship, which caught fire and was destroyed en route from St. John's, Nfld., to Halifax, N. S. . . . Fire almost completely destroyed the School of Medicine of the University of Chile at Santiago, Chile, causing estimated damage of $3,000,000. Nine firemen were injured, two critically. In what authorities called a "national disaster" the school's 50,000 —volume library was about 60 per cent destroyed. . . . In Hull, Eng., eight persons were killed in a gasoline explosion which destroyed a four-story cocoa mill, in November. Two others were missing and believed dead. . . . In Mansfield, Ohio, two firemen and two policemen were injured by an explosion of a crude bomb. They were attempting to put out the fuse on the bomb after earlier efforts to extinguish it with a fire hose had failed. Firemen and police were called when neighbors saw the bomb smoking in a doorway of a cafe. . . . In Boston, fire on December 4, swept sections of the first three floors of the nine-story Fargo naval building, driving more than 1,000 sailors and officers to the street. Three sailors were hurt fighting the fire before firemen arrived. Firemen responding on three alarms fought a two-hour battle before subduing the flames. . . . Future generations of Northern Ireland may not know the fireman with his gleaming (and heavy) brass helmet, for that glamour helmet, so long admired by the local gentry, is to be replaced with the less romantic, but safer, more comfortable shockproof type, more like those used in this country. . . . The Italian salvage ship Fiocina was placed under Coast Guard orders to leave the port of Fort Pierce, Fla., Dec. 11, because it was loaded with 10 tons of explosives. The ship came to Fort Pierce to begin salvage operations on an Italian freighter sunk off the Cape Canaveral during World War II. . . .

* * *

Briton Forecasts New Rocket Bomb

Air Chief Marshall Sir Roderick Hill, who commanded Britain's air defenses during the flying bomb and rocket campaign of 1944-45, declared in a recent report that the German rocket "foreshadowed further developments which still loom ahead of us.

His detailed and dramatic report of the great effort to defeat the German weapons described the V-2 rocket as "a notable advance on anything that had gone before..." German scientific advances, he said, gave us a foretaste of the hazards against which it is our business to provide.

The air defense problems presented by pilotless planes and long-range missiles, he said, will not remain static and may recur in new forms in the future. His report showed that up to the time the rocket attacks ended, the British had

not discovered any sure way of interfering with the weapons once they left the ground,—or of even any means of giving adequate warning against their approach. The only counter against them, he added, was to destroy the rockets at their sources.

His report disclosed that 748 bombs reached Britain, of which 52.8 per cent were brought down by the defenses. It added that 1,115 rockets had fallen in or within sight of Britain and that 518 had reached the target area, which was principally the London district. The V weapons killed 8,938 persons, seriously injured nearly 25,000, destroyed or severely damaged 200,000 homes and less seriously damaged 1,000,000 more.

Fire Prevention Contest Winners Announced

In a competition which included entries from 2,928 American and Canadian municipalities, fire departments and fire safety organizations, Oak Ridge, Tenn., was named the winner in the 25th annual Fire Prevention Week contest staged jointly by the National Board of Fire Underwriters and the National Fire Protection Association. Second and third places in the judging went to Memphis and Chicago, respectively. Oak Ridge also won the contest in 1947. The judging was held on December 27 ,at the National Board of Fire Underwriter's offices in New York.

Ottawa, Ontario, was chosen first place among Canadian entries, followed by Arvida, Quebec, and Sherbrooke, Quebec.

Fifteen industrial companies were singled out for natinal honors in the industrial division of the contest. Of these, two located at Oak Ridge tied for first place. These were the Carbide and Carbon Chemicals Corporation's K-25 plant and Y-12 plant.

The number of entries, of which 2,267 were from American municipalities, 658 from Canada, two from Hawaii and one from Alaska, was the greatest ever to be submitted in the contest, according to T. Alfred Fleming, director of conservation of the National Board of Fire Underwriters, who was chairman of the contest.

Judging was done by an international committee of judges, who based their decisions on the scrap books, clippings, photographs, records and motion picture films submitted by the committees. Each exhibit described the inspections, demonstrations and outstanding events of a city's Fire Prevention Week observance last October 3-9 and Spring Clean-Up Week.

Exhibits were judged on a point scale. The winning American cities which received scores of from 90 to 100 per cent are, in order of their final grade:

Oak Ridge; Memphis; Chicago; Jersey City; Louisville, Ky.; Fort Collins, Colo.; Hartford; Los Alamos, N. M.; Anderson, Ind.; Fort Wayne, Ind.; Portland, Ore.; Providence, R. I.; North Richland, Wash.; Evansville, Ind.; Seattle, Wash.; Atlanta, Ga.; Dayton, Ohio; Fayetteville, N. C.; Staten Island, N. Y.; Norfolk, Va.; Stevens Point, Wis.; and Parkersburg, W. Va.

The leading Canadian cities, in order of their final grade, are as follows:

Ottawa, Ontario; Arvida, Quebec; Sherbrooke, Quebec; Hull, Qubec; Galt,

VALUE *for 34 Years*

Why do users of Hale Fire Pumps specify "Hale Pump" when they buy new apparatus?

Because these men have learned through practical experience HALE VALUE in terms of:

DEPENDABILITY
FLEXIBLE PERFORMANCE
HIGH EFFICIENCY

For 34 years Hale-equipped Fire Pumpers have upheld a high standard of dependability . . . a dependability that has won the respect of users all over the world.

That is one of the reasons why Hale Fire Pumps are sold only through manufacturers of quality apparatus.

Write today for the new folders on Hale Fire Pumps . . . built in all standard capacities.

HALE
FIRE PUMP COMPANY
Conshohocken, Pa.

GET THIS . . .

One expander body for all sizes of segments from ¾" to 3". Convenient—space saver. Unbreakable segments.

A Quick Inquiry
A Quick Reply

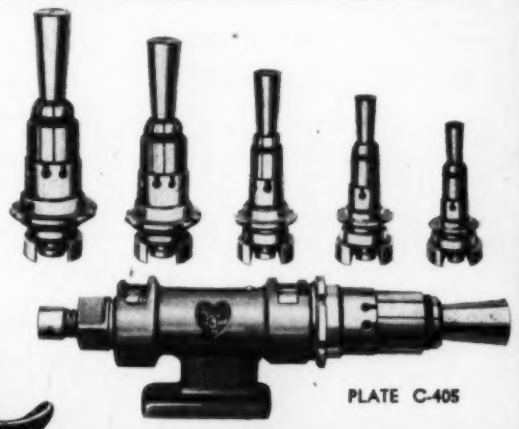


PLATE C-405

COMBINATION UNBREAKABLE EXPANDER

FIRE FIGHTING EQUIPMENT
ELKHART
BRASS MANUFACTURING CO.
ELKHART . . . . . INDIANA

ANNOUNCING!
OUR NEW
1949 SPRING CATALOG
SURPLUS Unused Fire Equipment at Tremendous Savings
FIRE HOSE
RUBBER HOSE
HOSE COUPLINGS
FOG NOZZLES
FOAM NOZZLES
FOAM LIQUID
FOG-FOAM EQUIPMENT
FIRE EXTINGUISHERS
BREATHING APPARATUS
PORTABLE SPOTLIGHTS
SIAMESE VALVES
SHUT-OFF VALVES
SPRAY NOZZLES
ALARM BELLS
WIRE CUTTERS
FIRE AXES
PLAYPIPES
BRASS FITTINGS
—and many other items at prices as low as 25% of normal list.
—SEND FOR YOUR FREE COPY—
HALPRIN SUPPLY CO.
"THE" Dealer in Surplus Fire Equipment
837 EAST 4TH PLACE
LOS ANGELES 13, CALIF.

JANESVILLE QUALITY
TURN OUT CLOTHING

Our turnout suits are giving excellent satisfaction in most of the large fire departments throughout the U. S. and
THERE MUST BE A REASON WHY SO MANY FIREMEN INSIST ON JANESVILLE QUALITY
NOW AVAILABLE
We can now supply old type ¾ Length and Knee Length Felt-lined Firemen's Boots.
JANESVILLE APPAREL CO.
JANESVILLE, WIS.

Ontario; Kitchener, Ontario; Kenogami, Quebec; Brantford, Ontario; Malartic, Quebec; Fort William, Ontario; St. Joseph d'Alma, Quebec; Edmonton, Alberta; Niagara Falls; Kentville, Nova Scotia; Hamilton, Ontario; Timmins, Ontario.

The fifteen industrial plants with the best fire safety programs were:

Carbide & Carbon Chemicals Corporation, K-25 Plant, Oak Ridge, Tenn.; Carbide & Carbon Chemicals Corporation, U. S. Atomic Energy Y-12 Plant, Oak Ridge, Tenn. (tied for first place); Delco-Remy, Anderson, Ind.; Aluminum Company of Canada, Arvida, Quebec; Roane-Anderson, Oak Ridge, Tenn.; Guide Lamp Company, Anderson, Ind.; Bendix Products Division, Bendix Aviation Corporation, South Bend, Ind.; E. I. DuPont Company, Acetate Division, Rayon Dept., Waynesboro, Va.; Memphis General Depot, U. S. Army, Memphis, Tenn.; Sears Roebuck & Company, Memphis, Tenn.; Searle Grain Company, Fort William, Ontario; Firestone Tire & Rubber Company of Tennessee, Memphis, Tenn.; Roberval & Saguenay Railroad Company, Arvida, Quebec; Ford Motor Company, Memphis, Tenn.; Great Lakes Lumber & Shipping Ltd.; Fort William, Ontario; Caterpillar Tractor Company, Peoria, Ill.

Features of the Oak Ridge Fire Prevention Week observance, which won for that city the national prize, were intensive inspections for fire hazards in all dwellings and industrial plants, inspections of fire hydrants, water supplies and alarm systems, drills and practice runs for the fire department, fire fighting demonstrations, special film showings and a city-wide publicity campaign.

Judges of the contest were John R. Cooney, chairman of the executive committee of the National Board of Fire Underwriters and president of the Firemen's Insurance Company of Newark; Curtis W. Pierce, president of the Factory Insurance Association, representing the National Fire Protection Association; Fred Shepperd, technical consultant of the International Association of Fire Chiefs, and A. Leslie Ham of Montreal, manager of the Canadian Underwriters Association.

New Haven Televises Training Film

What may mark another first for the New Haven Fire Department, according to Fire Chief Paul P. Heinz, was the televising of a fire fighters' educational program which the department recently sponsored.

The subject of the film televised was "Chemistry of Fire Fighting," a Navy education film issued during the war. According to Chief Heinz, this is only the start of a television program designed to take advantage of the fact that many fire stations are equipped with sets. Further programs are contemplated to include video education to both fire fighters and public.

Milwaukee Fire Bell Club Elects

The Milwaukee Fire Bell Club, an enthusiastic organization of fire buffs of that city, has elected its slate of officers for the coming year. They are, as shown in the photograph (l. to r.) Frank Lukitsch treasurer; John Wenzler, vice president, Joseph Pfeifer, president and Elmer W. Leichtfuss, secretary.

The outgoing president is George Hammerschlag under whose administration donations by the Club and contributions of Milwaukee business men, secured through the Club, resulted in the gift to the Milwaukee Fire Department, Chief Engineer Edward Wischer, of a Cadillac ambulance for use of fire department personnel and their families. This ambulance responds to all multiple alarms in the city.

The organization of the buffs is one of the most alert in the country and, like its prototypes, has for its one aim the interests of the local fire fighters and reduction of fire losses in the community.

The Fire Bell Club was loaned a mobile canteen by the local Salvation Army and this was refurbished and stocked with coffee, beef tea, gloves and tobacco which is dispensed to firemen on major alarms. Each month one member of the Club is on duty and responds to major alarms of any duration or working fires during severe weather.

Photo Courtesy John M. Hopwood

New Officers of the Milwaukee Bell Club (Left to Right), Frank Lukitsch, Treasurer; John Wenzler, Vice-President; Joseph Pfeifer, President, and Elmer W. Leichtfuss, Secretary

Questions and Answers

Hydraulic Problems

To the Editor:

1. An engine is pumping through 500 feet of 2½-inch hose equipped with a 1⅛-inch tip. Pump pressure is 150 pounds. What will be the discharge and friction loss?

2. An engine is pumping through 500 feet of 3-inch hose with 2½-inch coupling, equipped with a 1⅛-inch tip. What will be the discharge and friction loss? Pump pressure is 150 pounds.

E. A.

Answer 1: The method of solving the problem you submitted is as follows:

Nozzle pressure = engine pressure ÷ (1.1 + KL)

Engine pressure = 150 pounds.

K for 2½-inch hose and 1⅛-inch nozzle is .167.

L, the number of 50-foot lengths of hose in the line, is 500 ÷ 50 = 10.

Then N. P. = 150 ÷ (1.1 + .167 × 10)
= 150 ÷ 2.77
= 54 pounds.

Discharge from the 1⅛-inch nozzle at 54 pounds nozzle pressure is 275 gallons per minute.

Friction loss = engine pressure — nozzle pressure, or 150 — 54, or 96 pounds, or 19.2 pounds per 100 feet of 2½-inch hose.

Answer 2: In solving the second problem you give, the 3-inch hose with 2½-inch couplings should be reduced to a line of 2½-inch hose with 2½-inch couplings. The conversion factor is 2.5.

500 ÷ 2.5 = 200 feet of 2½-inch hose (with 2½-inch couplings).

N. P. = E. P. ÷ (1.1 + KL)

K for 1⅛-inch tip on 2½-inch hose is .167.

L = 200 ÷ 50, or 4.

Then N. P. = 150 ÷ (1.1 + .167 × 4)
= 150 ÷ 1.768
= 85 pounds.

The discharge from a 1⅛-inch nozzle at 85 pounds nozzle pressure is 345 gallons per minute.

The friction loss in the line will be engine pressure minus nozzle pressure, or 150 — 85, or 65 pounds.

This friction loss is for 500 feet of 3-inch hose with 2½-inch couplings.

The friction loss in 100 feet would therefore be 65 ÷ 5, or 13 pounds.

Pump to Supply "Dry" Hydrant

To the Editor:

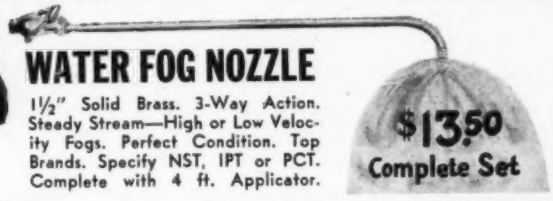
One section of our town which does not have city water, wishes to install a dry hydrant on the side of the road. The pond that they intend to pump from is 150 feet from the side of the road. The road is nearly 20 feet in elevation above the pond. The officials are figuring on a gasoline engine driven pump to supply the dry hydrant. Our fire trucks are equipped with 500 G.P.M. midship mounted

Unused Surplus
1½" FOAM NOZZLE
With PICK-UP TUBE
@ $11.50
Specify 1½" NST, IPT, or PCT.
Brass Fittings with Alloy Pipe.
Siphons Liquid Foam into Hose Stream.
"Foam Blanket a Fire in Seconds."

FOAM LIQUID 5 Gal. Sealed Cans. @ $5.00

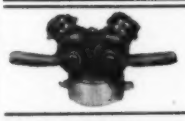
PORTABLE SPOTLIGHT
With 4 Non-Spill, 2-Volt Batteries. Long Life. Can Recharge with Any Standard Charger. Charge Floats Visible at All Times. 5¼" Sealed Beam Lamp. Top Candlepower Rating. 1 Mile Beam.
@ $18.50
Complete—Batteries Shipped Dry.

WATER FOG NOZZLE
1½" Solid Brass. 3-Way Action. Steady Stream—High or Low Velocity Fogs. Perfect Condition. Top Brands. Specify NST, IPT or PCT. Complete with 4 ft. Applicator.



$13.50 Complete Set

1½" Nozzle Alone @ $11.00 With 6' or 10' Applicator Set @ $14.50
2½" NST Fog Nozzle, Brass @ $15.00 With 12' Applicator Set @ $19.50



TWO-WAY BRASS LEADER LINE SIAMESE
2½" NST Female to Pair 1½" Males. Quick Acting Quarter Turn Valves. Specify NST, or IPT on 1½" Males.
@ $9.00

HALPRIN SUPPLY CO. "THE" Dealer in Surplus Fire Equipment
837 East 4th Place, Los Angeles 13, Calif.

FIRE CHIEFS SAY—
"When Fire Starts — Seconds Count"

PROGRESSIVE CHIEFS are now looking to automatic fire detection for the true answer for stopping the increase in fire losses.

ATMO is the famous "Rate of Rise" system that automatically calls the fire department and sounds the alarm within seconds when fire starts.

The ATMO System is approved by
Underwriters' Laboratories, Inc.
Factory Mutual Laboratories, Board of Standards and Appeals, City of New York

ATMO ACTS in SECONDS to STOP FIRE

J. H. SCHARFF, Inc.
36 MAIN STREET, ORANGE, NEW JERSEY
ORANGE 5-6002

MORNING PRIDE

RUBBER COATS and PANTS

All Wool

Detachable Linings

Coats Lettered on Backs

ALSO

CANVAS

RUBBER

FABRIC

FIRESUITS

MITTENS • SUSPENDERS

See Your Morning Pride Dealer or Write

MORNING PRIDE MFG. CO.

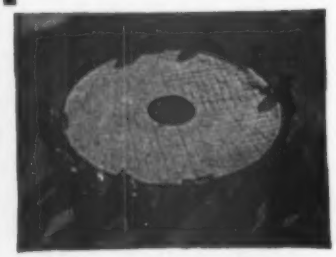
1986 Home Avenue, Dayton 7, Ohio

In the Fire Service—

THERE'S NOTHING "JUST AS GOOD"

The fire service prides itself on buying "the best," everytime. *INSIST on ATLAS*—everytime—and you'll get the best life net!

ATLAS LIFE NETS



ATLAS SAFETY EQUIPMENT CO., INC.

27 WARREN ST. NEW YORK 7, N. Y.

pumps which we would connect to the dry hydrant.

What type of pump, what horsepower engine, and what size pipe, both intake and discharge, would cover the minimum requirements for efficient service. W. H.

Answer: We assume from the information in your letter that the gas driven pumper would be placed near the source of supply, and would deliver water to the pipeline, to the other end of which is attached the dry hydrant. We are further assuming that a maximum flow of 1,000 gallons per minute is desirable from the hydrant, and make the following calculations for the size of pump.

A 5-inch standard hydrant carrying 1,000 gallons per minute gives a friction loss (main to hose) of 11 pounds.

The friction loss in 150 feet of 6-inch cast iron water pipe at 1,000 gallons per minute is approximately 9 pounds. Allowing for friction loss due to inlet bends, etc., of 5 pounds, and pressure at the hydrant outlet of 10 pounds, we have accounted for 35 pounds pressure. To this must be added the head represented by the height of a hydrant over the source of supply, the pond, which is 20 feet. This gives a back pressure of 20 × .434, or 8.68, or 9 pounds approximately.

The total pressure required at the pump will then be 44 pounds.

Thus the pump will have to deliver water against this pressure, namely, 44 pounds.

A centrifugal pump would be the most flexible for the purpose, and the proper one to use. An engine of 50 brake horsepower would be required for driving the pump.

A 6-inch diameter supply main is suggested because even if it becomes somewhat incrusted after years of service, it will still have sufficient capacity to supply the hydrant without excessive friction loss.

Small Line Calculations

To the Editor:

An engine is pumping at 80 pounds pressure through 200 feet of ¾-inch booster hose equipped with a ⅜-inch nozzle. What will be the nozzle pressure, the friction loss and discharge? The friction loss formula in "Fire Service Hydraulics" is given as $40 \times (2Q^2 + 1/6Q) \times 11.7$. The 11.7 does not seem correct.

S. A. G.

Answer: The formula for finding nozzle pressure is:

N. P. = E. P. + (1 + KL)

K for ⅜-inch nozzle on ¾-inch hose is 1.035.

L. = 200 ÷ 50 = 4.

E. P. = 80 pounds.

Then N. P. = 80 + (1 + 1.035 × 4)
= 80 + 5.14
= 15.5 pounds.

The discharge from a ⅜-inch nozzle at 15.5 pounds is found as follows:

Discharge = $29.7 \times \frac{3}{8} \times \frac{3}{8} \times \sqrt{15.5}$
= 16.4 gallons per minute.

To find the friction loss we use the following formula:

Friction Loss per 100 feet = $40 \times (2Q^2 + 1/6\ Q) \times C$

Q is the flow measured in hundreds of gallons per minute, and C, a factor depending upon the hose diameter. C for ¾-inch hose is 11.7.

Then F. L. = $40 \times (2 \times [.164]^2 + 1/6 \times .164) \times 11.7$
= 38 pounds per 100 feet
= 38 × 2, or 76 pounds for the 200 feet.

The table value for friction loss in 200 feet of ¾-inch hose at 16.4 gallons per minute flow is 70 pounds. Thus the calculated value, by formula, is sufficiently close to table values.

The value of C for ¾-inch hose is 11.7 as indicated in the solution above.

Correction

In the first problem treated in the "Questions and Answers" department of the September, 1948, issue of this journal, the layout consisted of a 300-foot stretch of 2½-inch hose branched into two lines of 1½-inch hose each 300 feet in length. In the solution as given, the six lengths of 2½-inch hose were omitted. Thus the combined line should have been 1126 + 300, or 1426 feet in length instead of 1126 feet as given. Among the "sharpshooters" who caught this error and called it to our attention were: Francis M. Owens, Worcester, Mass.; Lt. F. J. Bates, Salem, Mass.; Captain James H. Barnes, Baltimore, Md.—EDITOR.

Firemen at Walla Walla V. A. Hospital Build Drill Tower

There's nothing static about the 11-man fire department at the Veteran's Hospital, Walla Walla, Wash., Fire Chief Frank A. Maddox, commanding. Two outstanding activities during 1948 were the department's all-out fire prevention campaign, in October, and the construction of its own four-story training tower.

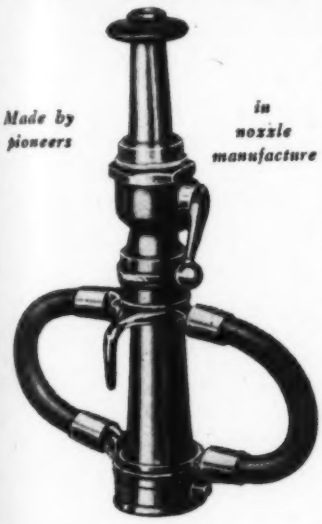
The recently completed tower built by members of the hospital fire department from surplus materials, is 10 x 10-ft. structure, about 40 feet in height, located adjacent to the hospital's fire house, which the hospital brigade has been using since 1946. By agreement with the hospital authorities, the tower will be used also by the Walla Walla City Fire Department.

The tower is designed for training in all hose and ladder evolutions, gas mask drill, rescue work, forcible entry and ventilation. It has several novel construction features.

The framework is bolted to the foundation of a former paint shop and so constructed in sections that it might be moved to another location, if need be. The floors are connected by stairs for use in evolutions, and doors have been used in place of windows on one side of the second and third floors for convenience in fire drills. On the fourth floor a 6-ft. high structure is built over the stairway entrance to simulate a bulkhead door opening onto the top of the building. A square hatch on the extreme right of the roof is also provided and both these features are used in ventilation practice.

Actual building work of the tower replaced 30 minutes of daily calisthentics,

"All American Choice"



Made by pioneers in nozzle manufacture

INVINCIBLE
NOZZLES
F. H. McINTIRE BRASS WORKS
Successors to A. J. Morse & Son, Inc.
Boston, Mass.
1837 — 1949

Operate
• LIGHTS
• TOOLS
• PUMPS
• BLOWERS

Ready for instant use. Onan Electric Plants provide dependable power for floodlights and tools anytime—anywhere. These lightweight plants are easily carried into trouble areas; compact enough to fit into small space for truck installations. Portable models available in capacities from 350 to 5,000 watts, powered by one and two-cylinder, 4-cycle air-cooled engines.

ONAN ELECTRIC PLANTS—A.C.—350 to 35,000 watts in standard voltages and frequencies: D.C.—600 to 15,000 watts, 115 and 230 volts. Battery chargers—500 to 6,000 watts, 6, 12, 24, 32 and 115 volts.

Plant shown is Model 15 DL-14 1500 watts, 115-volt D.C.

D. W. ONAN & SONS INC.
4341 Royalston Ave., Minneapolis 5, Minn.
ONAN ELECTRIC PLANTS

which is required of VA hospital firemen. The training program is directed by Captains Charles Heath and Robert Lester with the overall supervision of Chief Maddox.

Two Firemen Injured When Ladder Fails

Two volunteer firemen of the Lakeview, L. I., Fire Department, were injured, one seriously, when a 35-foot extension ladder broke while they were climbing it during ladder drill at the Eagle Avenue school in Lakeview.

James Murphy, 21, suffered a fractured skull, fractured ribs and other injuries. He had been a member of the Lakeview department for more than five years. He was removed to Meadowbrook Hospital, after receiving first aid at the scene of the accident, where his condition was listed as critical.

William Whittneben, 22, who was following Murphy up the ladder, received a possible fracture of the right upper arm and right lower ribs, but was released from the hospital after treatment.

The two, with other members of the Lakeview department, were gathered at the west wall of the school. Fire Chief Andrew McGowan had called the drill to instruct rookies. Murphy, an experienced man, went up the ladder with a dry hose and nozzle over his shoulder, with Whittneben following, the hose over his shoulder and a third man, William Buschner behind him, also with hose over his shoulder.

As Murphy reached the top, the ladder snapped just above the junction of the bed and fly sections of the extension ladder and Murphy fell, carrying the two others with him.

The ladder which broke was said to be the regulation fire department, two section, 35-foot extension truss type. No data are available at this writing concerning its age or condition or the results of the investigation into the accident.

One repercussion of the near-tragedy was the decision by the Village Board of East Rockaway, L. I., to discontinue the use of present equipment on the local fire department's ladder truck. Fire Chief William C. Hummel was authorized to order discontinuance of use of the 20-year-old ladders of the company after a letter from the latter detailed the volunteers' concern over the use of the old ladders.

A new truck has been ordered, it is said, and delivery expected in about three months. Until it arrives, East Rockaway firemen will have to call one of the neighboring departments if the need arises.

Fire Trucks Collide in Fresno

Sixteen persons were injured Dec. 12, last, in Fresno, Calif., when two fire trucks collided at a downtown street intersection. Ten of the injured were firemen.

Because of the danger of explosion from the fumes of the gasoline spilled from the trucks' fuel tanks, pedestrians were warned to cease smoking throughout the area.

The trucks, from two different stations, were responding to an alarm of fire at the time of the crash.

BRAXMAR BADGES

Standard with firemen for 69 years. We can now supply nickel and chrome badges.

John O. Veit, Pres.

C. G. BRAXMAR CO., Inc.
216 E. 45 Street, New York 17, N. Y.

WENTWORTH
HEAD-MASTER
REG. U.S. PAT. OFF.
FIREMAN UNIFORM CAPS

Union Made Prompt Delivery

Wentworth Fireman Caps are made of the Highest Quality Standard Materials available. They are made in all the New and Standard styles by the Best Skilled Union Craftsmen. Over 50 years of experience and skilled workmanship guarantees you AMERICA'S GREATEST CAP VALUE in all WENTWORTH FIREMAN CAPS.

Write direct for latest circular and prices or see your local dealer.

AMERICA'S UNIFORM CAP HEADQUARTERS

Classified Advertisements

"For Sale," "Proposal" and "Wanted" advertising $6 per inch insertion less 10% for three or more consecutive insertions.

FOR SALE—SPOTLIGHTS

6" Sealed-Beam, Portable, Search Lights. Rechargeable with 4, Non-Spill, 2-Volt Wet Batteries. Visible Charge Floats. Adjustable. Long Life. Top Candle Power. 1 Mile Beam. Unused. Heavy Duty Surplus @ $18.50 Complete. (Batteries Shipped Dry). Extra Set of 4 Batteries for Standby Charge @ $9.00 Set.

ALSO

Full Coverage Asbestos Fire Suits.....@ $8.50
1½" S.J. Hose, 50' NST Unused.....@ $12.50
1½" D.J. Hose, 50' IPT Unused.....@ $18.00
1½" D.J. Hose, 50' NST or PCT.....@ $19.50
2½" S.J. Hose, 50' NST Unused.....@ $25.00
1½" Fog Nozzle & 10' Applicator.....@ $14.50
2½" Fog Nozzle & 12' Applicator.....@ $19.50
Siamese Y Valve, 2½" to Pr. 1½"...@ $9.00
1½" Foam Nozzle & Pick-Up Tube...@ $11.50
1½" Linen Hose, 50' IPT Unused....@ $10.00
1½" D.J. Couplings, Brass IPT.....@ $1.50

All Fire Hose Is Surplus—Coupled, White, Soft.

Many other items at 25% of list. Write us.

HALPRIN SUPPLY CO.
"THE" Dealer in Surplus Fire Equipment
837 East 4th Place, Los Angeles 13, Calif.

PUMPER FOR SALE

1937 Childs Foamite 600-gallon pumper equipped with 200 gallon booster tank and all other standard equipment, Ladders, Suction, Etc.

Can be seen at Old Forge, New York Fire House. Reasonable price.

TOWN OF WEBB FIRE DISTRICT
Mr. A. E. Eyre, Secretary
Old Forge, New York

FIRE EXTINGUISHERS

Carbondioxide, fire extinguisher-tire inflator $5.95 seller, cost agents $3.82. Free literature. Agents wanted. Carbondioxide transfer pump DC 230 volts, unused $200, f.o.b. FIRE EXTINGUISHER SALES & SERVICE CO., 98 Vermont Avenue, Newark 6, New Jersey.

WANTED
SPECIAL REPRESENTATIVES

Nationally advertised Fire Apparatus manufactured by 40 year old concern. Good deliveries. Attractive proposition. Write to Box 40, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

POSITION WANTED

Position as Fire Chief, Fire Marshal or Fire Prevention and Protection Engineer, married, age 38. High School Graduate, two state fire colleges, University extension course in Arson and Investigation, served as Fire Chief with U. S. Engineers and U. S. Air Force prior to World War II, served during World War II as an Instructor in U. S. Navy Firefighters School, also as Fire Chief ashore and afloat. Graduate of U. S. Navy Firefighters School and U. S. Air Force Aircraft Crash Rescue and Firefighters School. Now employed for past three years as Fire Prevention and Protection Engineer for a major command of U. S. Air Forces. Fully experienced in all phases of Fire Prevention and Protection, including Aircraft Crash Rescue and Firefighting. Have a thorough knowledge of fire department organizations, training, apparatus and administration procedures. Have Fire Prevention and Protection Library, covering all codes, etc. Desire to make a change in the near future, would prefer a Southern Municipality, would consider any worthwhile sound offer. Salary open. Excellent references. Interview can be arranged. Address all inquiries to Box 35, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

FOR SALE

Fire Pumping Units—Trailer mounted, perfect condition, 500 Gal. per minute, $800, all complete with Suction hose.

2½ x 4½ Gates—N. S..... $6.00
Double males—N. S..... 2.00
2½ Nozzles—N. S..... 2.00
2½ x 2½ x 2½—N. S..... 2.50
1½ Fog or Spray Tips—N. S..... 1.50
2½ x 2½ x 2½ Clapper valves, N. S..... 3.50
Adjustable Hydrant Wrenches..... 2.00
14 ft. roof ladders..... 20.00
Hose Straps 1.25
Spanner wrenches 0.25

All the above in stock and immediate shipments can be made

FRANK SHORTNER - Edgar, Wisconsin

FOR SALE

1—1930 American-LaFrance Fire Truck
500 Rotary Pumper
Good condition

BRENTWOOD VOLUNTEER FIRE DEPARTMENT, INC.
Brentwood, Maryland

FOR SALE

1929 Dodge 1½ ton fire truck with front end 300 gallon Barton pump, completely equipped. Truck and equipment in excellent condition. Will sacrifice for quick sale.

W. E. NEWMAN, MAYOR
Boydton, Virginia

FOR SALE

LaSalle Meteor Ambulance 1937 model. In excellent condition. FRIENDSHIP FIRE CO., Linwood, Pa.

WANTED

Fire Equipment Dealers to sell Morning Pride Rubber and Canvas Rubber Fabric Fire Coats and Fire Pants, All Wool Detachable Liner, Mitts and Suspenders.

Write today MORNING PRIDE MFG. CO., 1986 Home Ave., Dayton 7, Ohio.

FOR SALE—TANK TRUCK

1937 Federal Chassis, 200 G.P.M midship pump, 1100 gallon booster tank, 20' of 3½" hard suction, extension and roof ladders, booster hose, extinguishers, lights, etc., truck now in service. Full particulars and photographs upon request.

WOODBRIDGE VOLUNTEER FIRE ASSOCIATION, INC.
Woodbridge, Conn.

FIREMAN TURNOUT COATS
AN EXCEPTIONAL VALUE

Unused Government Surplus, 100% Waterproof, With Removable, All Wool Blanket Lining. Rust-Proof Buckles. Coat is Durable, and easy to work with. Really Worth $22.00. Sizes 42—44. Price only $14.95. For Circular write:

M. WENTZ
160 Bush St., Bronx 53, N. Y.

WANTED

Dealer—Distributors to sell fire apparatus manufactured by well-known Factory. Also popular line of high grade fire hose. Prompt Delivery. Attractive proposition. Address Box 15, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

FIRE HOSE SALE

Unused Surplus 4-inch top brand Fire Hose, made by leading manufacturer, rubber-lined, 200-lbs. pressure; 50-ft. lengths, complete with male and female bronze fire department fittings . . . only $25.00 per 50-ft. length complete with fittings

AMERICAN WAREHOUSE
Box 1546 Phone 53 Pueblo, Colo.

WANTED

Position as Sales or Fire Protection Engineer—Chemical Engineering background and twenty years of fire experience. Write to Box 20, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

FOR SALE

Practically new Junior Aerial 65 ft. American-LaFrance.

Have available for immediate delivery. Contact:

MAYOR MacMILLAN
Ticonderoga, N. Y.

FOR SALE

New York State Only. NEW—500 GPM 1 and 3 stage pumpers, Pressures guaranteed to 700 pounds, twin booster reels, 300 to 500 gal. tanks, divided body, duralumin ladders, on F-7 Fords, 2 Ton Chev., GMC, February, March and April Deliveries guaranteed. Also 300, 1000, 1200 Gal. Tankers, with single, 2 or 3 stage pumps. Write to Box 30, c/o FIRE ENGINEERING, 24 West 40th Street, New York 18, N. Y.

SPECIAL BINDERS AVAILABLE AGAIN

Every issue of FIRE ENGINEERING has something you may want for future reference. With one of these standard handy binders, you will have every article at your fingertips and a complete index of everything published during the year. The binder holds 24 issues and two yearly indexes. **Price $2.50**

BOOK DEPT.
CASE-SHEPPERD-MANN PUBLISHING CORP.
24 WEST 40th STREET, NEW YORK 18, N. Y.

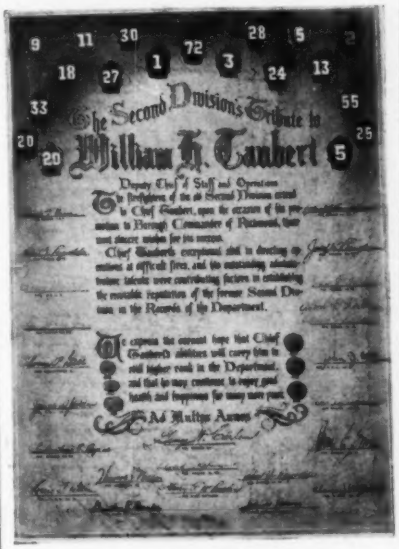
BODY-GUARD
BUNKER SUITS
FOR COMFORT & PROTECTION

WE ARE DISTRIBUTORS FOR
SIREN BOOTS
We have been supplying **FIREMEN'S CLOTHING** for over 25 years.
Any fireman can have a catalog by writing—
BODY-GUARD MANUFACTURING CO.
ST. JOSEPH - - MISSOURI

BAR-WAY
HOSE COUPLINGS
U. S. PATENT 2347447
for
HIGH PRESSURE
FOG *lines*
Approved By
UNDERWRITERS LABORATORIES
Streamlined
Full Flow
High Pressure
Accurately Machined
Internal Expansion
Remountable
"ON THE ENDS—IN THE END"
IT'S BAR-WAYS
BAR-WAY MFG. CO.
STAMFORD • CONNECTICUT

Chief Taubert Honored

William H. Taubert, recently made Deputy Chief of Staff and Operations of the New York City Fire Department, was recently presented with an engraved



Tribute to Chief Taubert

testimonial by the members of his former division. The text of the document is as follows:

"The firefighters of the old Second Division extend to Chief Taubert, upon the occasion of his promotion to Borough Commander of Richmond, their most sincere wishes for his success.

"Chief Taubert's exceptional skill in directing operations at difficult fires, and his outstanding administrative talents were contributing factors in establishing the enviable reputation of the former Second Division in the Records of the Department.

"We express the earnest hope that Chief Taubert's abilities will carry him in still higher rank in the Department, and that he may continue to enjoy good health and happiness for many more year."

Some time ago, when he was promoted to Deputy Chief, from Battalion Chief, the officers of his former battalion also honored him with a beautiful testimonial extolling his record as Battalion Chief.

Woburn

(*Continued from page 25*)

11 A. M., works until 7:00 P. M. The last group shows up at 7:00 P. M., goes home at 3:00 A. M.

The firemen don't like this set up a little bit, claiming they're right back where they were when the three-hours on, nine-hours off, system was put into effect. And as their dander rises, there's talk of more appeals to the Legislature. Their wives add fuel to the flames with sharp comments about breakfast at 3:00 A. M. And the mayor? He's still adamant. He points out the 48-hour week will force the city to put on 14 new men and, allergic to anything which adds pennies to Woburn's tax rate, he says the only way he can put 14 permanent new men on his fire department is by adding $45,000 to the department's budget.

CARPENTER LIGHTS

***Carpenter* PORTABLE**
FLASHING WARNING LIGHTS
Set in street to warn traffic. Visible a mile or more in any direction. Sturdy, compact, practical. Cast aluminum with 3¼ in. and 4½ in. fresnel lenses. Uses standard batteries. 11" high x 7" long x 6" wide.
WRITE FOR FOLDER
"Master-Light-Makers for 34 Years"
CARPENTER MFG. CO.
200 Master-Light Bldg.
BOSTON-45-SOMERVILLE
MASSACHUSETTS

Captain KENNETH J. POWELL
LEWISTOWN, PENNSYLVANIA
"Just a line to let you know that your hose Dryer has been doing very well. The City Hook & Ladder Company also uses our Dryer and likes it very much."

CIRCUL-AIR
FIRE HOSE DRYER
Makes good hose last longer, prevents mildew and rot. Keeps all hose in service, saves time, man-hours, and valuable space.
WRITE FOR FREE CATALOG
THE CIRCUL-AIR CORPORATION
575 East Milwaukee Street
DETROIT 2 MICHIGAN

✔ VICTIMS RESCUED
✔ FIRES OUT
✔ FIREMEN ALIVE and WELL

thanks to Chiefs who Specify

"Scott Air-Pak"

Fire Departments using *Scott Air-Pak* build enviable records for life and property conservation!

Fire Departments throughout the nation safely rely on Scott *Air-Pak* to locate and save persons trapped by smoke. Property loss, too, is reduced as fire fighters, safely protected from dense smoke and fumes, locate the fire and fight it at its source.

Scott *Air-Pak* is the *safe, proven* way to fight fires!

Scott *Air-Pak* Back-Pak (above) — ½ hour minimum duration at extreme exertion. Weight as worn 29½ lbs. B. of M. approval No. 1308.

OVER 1000 FIRE DEPARTMENTS NOW USING *Scott Air-Pak*

Over 1000 municipal and industrial fire departments use Scott *Air-Pak* — proof that it is safer, more economical and completely dependable. Special *Air-Pak* features include: cool, fresh AIR (not oxygen); demand-type regulator that can't be "outbreathed"; full-view mask permitting conversation.

FREE INFORMATION BOOKLET

Get the full story of Scott *Air-Pak* equipment—also arrangements for FREE DEMONSTRATION. Write for *Bulletin No. 510* and name of nearest distributor—today!

ESTABLISHED IN 1932
Scott
FOR SAFETY - FOR SERVICE

Departments now using Air-Paks send for free wall chart showing construction details.

SAFETY EQUIPMENT DIVISION

SCOTT AVIATION CORP.

215 ERIE ST. LANCASTER, N. Y.

ADVERTISING INDEX

FIRE ENGINEERING

JANUARY, 1949

	Page
All-Out Mfg. Corp.	42
American District Telegraph Co.	16
American-LaFrance-Foamite Corp.	10
American-Marsh Pumps, Inc.	54
Atlas Safety Equipment Co., Inc.	62
Bar-Way Mfg. Co.	65
Bean Mfg. Co., John	43
Blackington & Co., Inc., V. H.	14
Body Guard Mfg. Co.	65
Boyer Fire Apparatus Co.	52
Braxmar Co., C. G.	63
Briggs & Stratton Corp.	51
Cairns & Bro.	45
Carpenter Manufacturing Co.	65
Central Railway Signal Co., Inc.	58
Circul-Air Corp.	65
Darley & Co., W. S.	57
De Boer & Assocs., H. O.	52
E and J Manufacturing Co.	41
Elkhart Brass Mfg. Co., Inc.	59
Emerson Co., J. H.	Inside Front Cover
Eureka Fire Hose Div., U. S. Rubber Co.	47
Fabric Fire Hose Co.	15
Federal Enterprises, Inc.	3
Four Wheel Drive Auto Co.	Back Cover
Gamewell Co.	18
Goodrich Co., B. F.	7
Groban Supply Co.	56
Hale Fire Pump Co.	52; 59
Halligan Tool Co.	55
Halprin Supply Co.	60; 61
Homelite Corp.	12
Howe Fire Apparatus Co.	53
Janesville Apparel Co.	60
Kim Hotstart Mfg. Co.	44
Koehler Mfg. Co., Inc.	50
Kohler Co.	49
McIntire Brass Works, F. N.	63
Mars Signal Light Co.	6
Midwestern Mfg. Co.	8
Morning Pride Mfg. Co.	62
Oberdorfer Foundries, Inc.	11
Onan & Sons, D. W.	63
Powhatan Brass & Iron Works	53
Randolph Laboratories, Inc.	57
Rockwood Sprinkler Co.	9
Scharff, Inc., J. H.	61
Scott Aviation Corp.	66
Seagrave Corp., The	17
Smith & Co., D. B.	Inside Back Cover
Spangler Engineering & Sales Co., D. H.	13
Stephenson Corp.	55
Sterling Siren Fire Alarm Co., Inc.	54
Thompson Engineering Co.	58
Ward LaFrance Truck Corp.	5
Wentworth-Forman Co.	63
Young Fire Equipment Corp.	46

Your Chief Means of FIRE PROTECTION—

INDIAN *Fire Pumps*

The leading means of extinguishing inside and outside fires is by use of portable, highly efficient *INDIANS*—the back pack fire pumps that do the job fast and do it right. You'll be amazed at how much fire can be put out with the 5-gallons of water the tank holds.

Perhaps you are now equipped with *INDIANS* and realize what they can do. If so, we suggest you check over your supply to be sure you have plenty for the fire season. If you are not familiar with *INDIAN FIRE PUMPS* and would like to know more about them write us—we will send you our catalog and full information.

Properly formulated wetting agents may be effectively used in *INDIAN FIRE PUMPS* including galvanized tanks now coated on the inside with asphaltic base paint and brass and chrome plated tanks.

D. B. SMITH & CO.

406 Main Street
UTICA 2, N. Y.

PACIFIC COAST BRANCHES

Hercules Equipment & Rubber Co.
435 Brannan St.
San Francisco, Calif.

Roy G. Davis Co.
[illegible] East 3rd Street
Los Angeles 13, Calif.

Mill & Mine Supply Co.
2700 Fourth Ave.
Seattle, Wash.

Fred E. Barnett Co.

Klamath Falls, Oregon

Fred E. Barnett Co.
2005 S. E. 8th Ave.
Portland, Oregon

CANADIAN AGENTS:

Bingham & Hobbs Equip. Co.
395 W. 5th Ave.
Vancouver, Canada

Duke Equipment Co.
297 Duke St.
Montreal 5, Canada

Four-Wheel-Drive "*GET-THERE*" Power Meets Every Fire Fighting Emergency

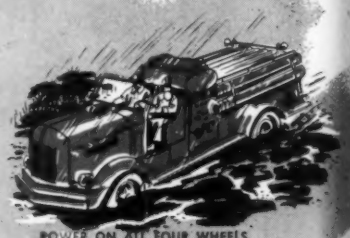
WHEN you start to the fire in an FWD fire engine, *you'll get there.* You'll get there *fast.* You'll get there *safely.*

Here's why. FWD's four driving wheels give you the extra power, added traction, greater speed you need to fight the toughest road conditions. With front wheels pulling and back wheels pushing, you'll drive right through to off-the-road locations. You'll plow through snow-bound streets to hard-to-reach hydrants. You'll go across rough terrain that only FWDs can go across.

Write for literature describing great new FWD fire fighting equipment — triple combination pumpers in 500, 750 and 1000 g.p.m. capacities, and the F-50-R designed expressly for rural fire-fighting.

THE FOUR WHEEL DRIVE AUTO CO.
CLINTONVILLE, WISCONSIN
Canadian Factory. KITCHENER, ONT.

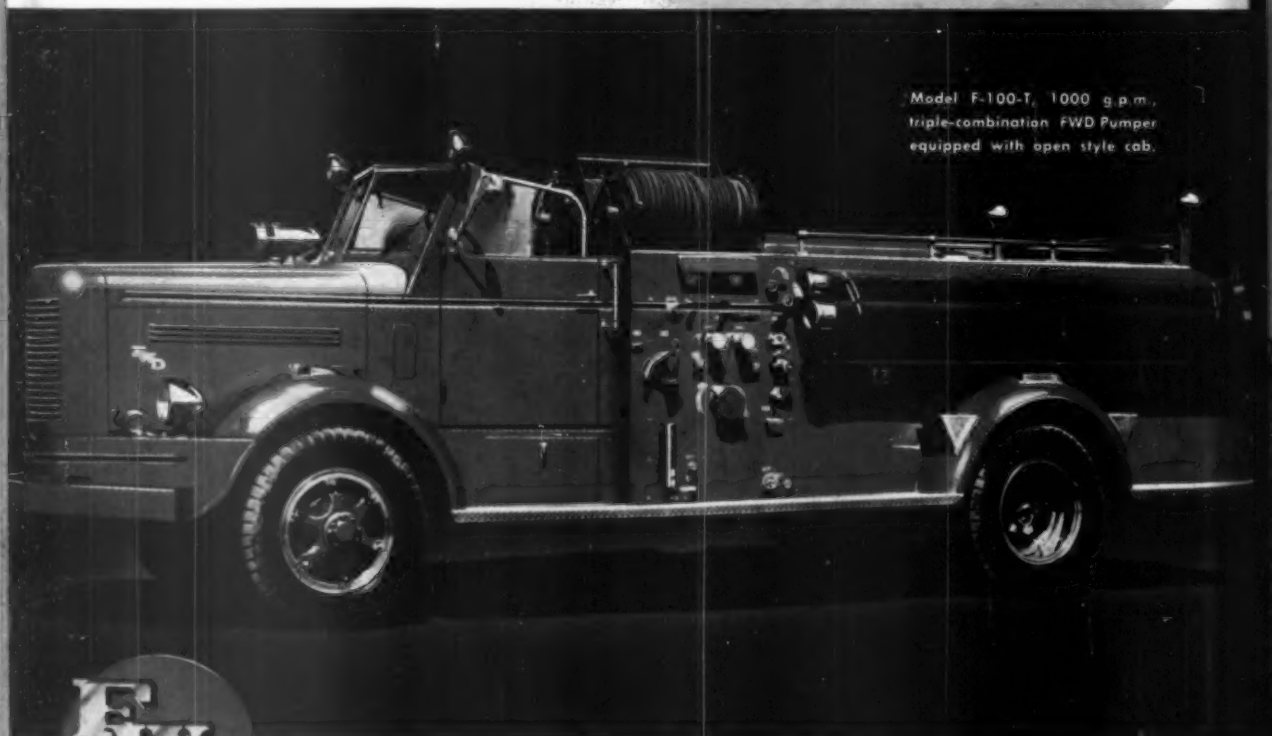
WITH FRONT WHEELS PULLING AND BACK WHEELS PUSHING — FWDs DRIVE THROUGH SNOW-BLOCKED STREETS



POWER ON ALL FOUR WHEELS TAKES YOU THROUGH TO OFF-THE-ROAD LOCATIONS

FWDs GET THROUGH TO OUT-OF-THE-WAY HYDRANTS IN HARD-TO-REACH SECTIONS

A FOUR-WHEEL GRIP ON THE ROAD PULLS YOU UP STEEP, SLIPPERY GRADES WITHOUT LOSING SPEED



Model F-100-T, 1000 g.p.m., triple-combination FWD Pumper equipped with open style cab.

FWD

YOU'RE SURE TO GET THERE WITH AN FWD